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An Address

ON THE

NATURE OF THE OVARIAN FUNCTION

AND THE

MEDICAL AND SURGICAL METHODS ADOPTED TO SECURE THE BENEFITS OF THE OVARIAN SECRETIONS.

Being the Annual Oration of the Reading Pathological Society delivered on Oct. 14th, 1920,

BY W. BLAIR BELL, B.S., M.D. LOND.,

GYNÆCOLOGICAL AND OBSTETRICAL SURGEON TO THE ROYAL INFIRMARY, AND LECTURER ON CLINICAL GYNÆCOLOGY IN THE UNIVERSITY, LIVERPOOL.

MR. PRESIDENT AND GENTLEMEN,—The compliment that you have paid to me in asking me to place my name beside those of the distinguished men who in the past have delivered the annual oration puts me under an obligation that I can hardly hope to discharge. The Reading Pathological Society is one of an interesting and ancient group of medical societies which were founded in the middle of the eighteenth and in the first half of the nineteenth centuries in response to a general quickening of the pulse of scientific endeavour. These societies in their aim without doubt foreshadowed much that is happening to-day, or, perhaps I should say, will soon happen, under the less altruistic but more business-like methods of Government control. The collaboration in effort, the pooling of knowledge, the discussion of differences have ever been an indication of the faithfulness of medical scientists to the Hippocratic ideal.

"The physician must not only be prepared to do what is right himself, but also to make the patient, the attendants, and externals coöperate." (Hippocrates, Aphorisms, § I., i.)

It is certain, therefore, that, whatever the future of medical, surgical, and obstetrical practice may be, nothing will ever disturb the dignified quietude of our old institutions, which, like the hoary manors with their velvet lawns and shading cedars, create an atmosphere of rest and refinement.

It is with these thoughts in my mind, and recognising the splendid opportunities such a society as this affords for the critical study of difficult problems and the dissemination of fresh ideas, that I turn from contemplation and reverence of the past to the subject of to-day's oration. Every now and then it is profitable and recuperative to pause from pressing forward to examine the information collected on the way; indeed, it is not until we have done so that we know what is important and what of no account. This applies to all branches of investigation, but to-day I shall attempt to examine only one small part of a subject that, with its foundations deep in the past, looms large in surgery, medicine, and their special branches at the present time.

In discussing the ovarian function, I am, then, picking out merely one link in the chain of the inseparable and coördinated functions of the internal secretory system. It is an interesting link, and it was in the attempt to throw some light on the intricate problem of the functions of the ovary that I was drawn, apparently, far afield. I say "apparently" because it was not so in reality, for we now know that the reproductive functions are not confined to the pelvic organs. I do not suppose any biologist, if he thought about the matter, would ever do otherwise than reject such a suggestion, for it has long been accepted that the essential biological functions of all living creatures are assimilation and reproduction. Weismann and Ray Lankester go so far as to say that the individual exists only to reproduce. If we investigate these two aspects of existence we find in the human subject, or in any other animal, assimilative processes eventuating in the reproductive climax. So closely interwoven, indeed, are the reproductive and assimilative functions that it is possible to assert that the metabolism of the body is inseparable from the genital metabolism. Without gonads the metabolism is merely what we may describe as individual, with functional gonads it becomes both individual and reproductive. It is outside my province to discuss the biological value of the human individual apart from the reproductive functions. Some hold that man is so far removed from the lower animals that he is no longer bound to obey his procreative instincts; indeed, he must entirely subject them to almost every other consideration. My arguments, however, will be based on the belief that the sex-glands generate the most potent forces in life—that they not only fill the cradle, but also guide the hand that rocks it and rules the world.

For many sociological and physical reasons it is not given to all persons with normal gonads to reproduce their kind, however desirable that consummation may be; so it comes about that we have to consider not only the importance of affording protection to the genital functions for the purpose of conception, but also whether the preservation of the ovaries when reproduction is impossible be expedient for the sake of the woman herself. The first consideration admits of no dispute; the second has been seriously questioned. We must, therefore, endeavour by scientific means to arrive at some definite conclusion, for the teaching and practice of gynæcologists with respect to conservation of the ovaries when conception is impossible is by no means uniform. There are many operators who assert that they obtain in the circumstances for which operation is required better results by removing the ovaries than by saving these organs. Others, and I am among the number, believe that, although conception may be impossible, conservation of ovarian tissue is based not only on the sound surgical principle of preserving important organs whenever possible—that is to say, of interfering no more than the lesion present absolutely demands with the functions of the body—but also on the actual results obtained. Nevertheless, while I cannot truthfully assert that the results of conservation are entirely satisfactory, I believe that the causes of dissatisfaction are due to the fact that our knowledge and technique—medical and surgical—have not yet reached perfection. Although a certain degree of sentiment must necessarily enter into the question—especially in regard to the feelings of a young woman deprived of her ovaries—the ultimate decision as to the value of ovarian tissue to her must be based on the demonstration of benefits accruing therefrom.

THE FUNCTIONS OF THE OVARY.

The ovary is a most intricate organ in regard to its functions. On the one hand, the genital gland in the adult provides the ova for reproduction, and, on the other, by means of its internal secretions, this organ ensures that its own functions and those of the rest of the genitalia shall be regulated, and that the general metabolism shall be adjusted to the reproductive requirements, not only directly, but also indirectly, through the other organs of internal secretion. The ovary is supposed, too, to influence the sex-characteristics. I shall consider this last question first.

Relation of the Ovary to Sex-characterisation.

There are two aspects of the relation of the female gonads to sex-characterisation that need consideration—namely, the influence of the ovary on the sex-characteristics, and the importance of the ovary in determining the sex of the individual. The views I shall state in regard to these matters are far from orthodox, but I shall hope to adduce evidence that, even if it fails to convince that my point of view is correct, will at least demonstrate that all the evidence is not in favour of the usually accepted ideas.

Concerning the first aspect of this subject, it is commonly held that the genital organs, and more particularly the gonads, constitute the primary sex-characteristics, and that the secondary sex-characteristics are dependent on internal secretions arising from the gonads in question—male or female as the case may be. Now the evidence for these beliefs, which are very old, has, in my opinion, been based on incomplete information. Even to-day our knowledge

of the subject is not perfect, but it is much more comprehensive than that on which the criteria of sex and the views concerning the production of secondary characteristics were based. The simple facts that ordinary men have testes and masculine secondary characteristics, and women ovaries and female characteristics have led to confused reasoning.

It is well known that every person is partly masculine and partly feminine—that in each are to be found, especially in connexion with the genital ducts, relics of the opposite sex, and that during the first few weeks of fœtal life it is not possible to identify the trend of sex-development. In the absence of precise knowledge concerning the factors that determine sex, which doubtless exist in the fertilised ovum, we can follow only the later manifestations which are the result of the progress of development of the determined sex. Thus about the end of the fifth week of fœtal life it may be possible to decide whether the gonad is to be an ovary or a testis; hitherto it has been an indifferent organ, so much so that the course of development in the Gartnerian (primary excretory) and Müllerian ducts, especially in the latter, may give the first indication of sex-determination. By the time the nature of the gonad has become fully declared the fate of these ducts is sealed: in normal circumstances, if the gonads be male in type, the Müllerian ducts not only remain imperfectly formed, but degenerate, while Gartner's ducts develop, and vice versa. Felix remarks that the primary excretory duct (Gartner's duct) is already degenerated in female embryos of 30 mm. (ninth week), at the very period at which degeneration of the Müllerian ducts begins in male embryos. It appears probable, therefore, that normally the sex-development of the ducts is not primarily dependent on the nature of the gonad. In other words, the character of the sex pervades all the tissues of the fœtus, including the sex-gland itself. This is very important. It means that the term "primary sex-characteristic"—so commonly applied to the genitalia—is merely a term of convenience, not of explanation. The primary sex-characteristic is, in fact, something quite different; it is the predominance of maleness or femaleness in the fertilised ovum, which predominance, as I shall show directly, may be so slight as to be disturbed even in the human subject. This conception makes it easy for us to explain much that is bewildering in experiments concerning the determination of sex, such as the influence of nutrition on the final sex-characterisation of the frog.

There is, moreover, another matter of importance in regard to secondary sex-differentiation. I have said that it is probable that there is a predominating potentiality of varying strength in different fertilised ova towards maleness and femaleness, and that this affects all the tissues; consequently, it is interesting to observe that the cortex of the suprarenal gland is developed in close proximity to the genital gland and at the same period. If, therefore, there is a determining factor in regard to the sex-gland and the other tissues—Müllerian ducts and the rest—it is certain that the suprarenal cortex will come within the sphere of influence. I shall not carry this question further than to mention that the thyroid and the pituitary are also in process of formation from the earliest period, and that the thyroid and suprarenal cortex are relatively much larger in the fœtus than in later life. In view of these facts, I see no escape from the belief that all the internal secretory glands control the sex-functions, sex-characteristics, and sex-metabolism from the beginning as much as do the gonads, and that, primarily, all owe their directive tendencies to the predominating sex-potentiality in the zygote, of which I have spoken. If, therefore, we are to persist in speaking of the gonad as a primary sex-characteristic we must also place the other organs of internal secretion in a similar category.

We are now in possession of so much indisputable evidence—the evidence of physiological experiment and of pathology—which demonstrates that the reproductive functions, apart from the production of ova, are as much dependent for their integrity on the organs of internal secretion other than the gonads as is the very structure of the genitalia themselves. Likewise, we possess a mass of pathological material which shows that even the secondary characteristics of sex are more dependent on the suprarenal cortex and the pituitary, for instance, than they are on the gonads themselves. This is of importance in regard to the second aspect of the relation of the ovary to sex-characterisation—namely, the denomination of sex as based on so-called primary and secondary characteristics.

I have just stated that most, if not all, of the organs of internal secretion appear to hold the balance of maleness or femaleness as laid down in the fertilised ovum, that this balance may be small, and that the equilibrium may be disturbed. In proof of this statement, and without going into too great detail, I may call attention to the large number of cases on record and under observation in which the secondary characteristics of one sex have been changed to those of the opposite sex, even in adult life. If a lesion of, say, the suprarenal cortex, leading to increased secretion, turns the secondary characteristics of a female in any given case into those of a male, and suppresses the functions of the ovaries, it is only logical to suppose that the suprarenal cortex in question, while normal, had been feminine rather than masculine in type, quantitatively or qualitatively.[1] When the degree of maleness or femaleness in a person is altered, increased or diminished, the alteration is reflected not only in the secondary characteristics, but also in the metabolism of the person concerned.

The gonad, then, is not solely responsible for the secondary characteristics; and, indeed, when out of coördination with the other organs of internal secretion in regard to sex-characterisation, it has little influence in this respect, and should not, in my opinion, be termed a primary characteristic on which the denomination of sex is based.

The recognition of this is of practical importance in partial hermaphroditism. A common type of this condition is that in which a person who, to all external—including genital—appearances, is a woman, has gonads of the opposite sex. As a rule, the uterus is absent and the vagina is represented by a deep pouch. Such an individual is considered a man; and in the eyes of the law "she" is a man. The testes in partial hermaphrodites are never functional, and it is interesting to note that the seminal tubules always remain undeveloped while the interstitial cellular tissue in which the seminal tubules are embedded is in such abundance that almost the whole organ appears to be composed of epithelial cells. Yet there are those who assert that the interstitial cells of the gonads are responsible for the secondary characteristics. If this were so, it could hardly come about that when they are seen at the highest state of development—as is the case in these partial hermaphrodites—every other characteristic is definitely that of the opposite sex: in some cases male (testicular) partial hermaphrodites have had every appearance of beautiful women—mind and body. So it appears that our denomination of sex in such cases has been incongruous. In practice I believe that these inharmonious genital glands should be removed when the opportunity offers, but that in any case the sex of an individual should be decided in accordance with the preponderance of sex-characteristics.

From many points of view, then, it is obvious that the ovary has only a related influence in regard to sex-characterisation, and that this organ is in no way predominant.

Genital Functions of the Ovary.

The genital functions of the ovary are concerned in reproduction directly and indirectly; by "directly" I mean the regulation of the genital cycle with the provision of ova and their implantation in the uterus; and by "indirectly" I refer to the relation of the genital functions to the general metabolism and the regulators

[1] It is interesting to note that such changes are always seen with tumours of the suprarenal cortex before puberty, but that after puberty, when the suprarenal cortex is less active in this respect, alterations in the secondary characteristics of women suffering with tumours of this organ are not so constant.

thereof. The cyclical regularity of genital activity and reproductive capacity, so well seen in most of the lower animals and normally in woman, is a remarkable phenomenon to which much attention has been directed, but I fear I have not time to-day to dwell on the wider aspects of this extraordinary provision of Nature, periodicity of function; this is only thrown out of time by abnormal circumstances—that is, by delayed growth, premature decay, and by pathological conditions of the genital organs themselves and of the soma on which they are dependent.

Before we consider the normal processes connected with the genital functions it is important to remember the following facts: first, it is possible for a woman to have normal ovaries with the congenital absence of a uterus, but that ovarian tissues tend very slowly to undergo premature atrophy after the removal of a previously functional uterus, and this is probably not due to traumatic causes; second, the uterus and mammary glands inevitably atrophy if the ovaries are removed, and changes occur in the other ductless glands with consequent alterations in the general metabolism. With these important facts in mind we may proceed to the considerations of the normal processes.

In spite of the widespread belief on the matter, it is only of recent years that we have obtained definite evidence of an ovarian cycle in connexion with the important phenomenon of ovulation. Loeb has shown that the corpus luteum, which is formed after dehiscence of the follicle and liberation of the ovum, prevents during its maturity further ovulation, and that the removal of an active corpus luteum, or of corpora lutea, accelerates subsequent ripening and dehiscence of another Graafian follicle. It appears probable, therefore, that the ovary is self-regulating; and it is possible that this cycle of events in the ovary leads to the normal uterine cycle—that, at least, is the easy and usually-accepted explanation. Yet there are certain facts that array themselves against such a supposition. In women many operators have observed an entire absence both of a ripe follicle and of a corpus luteum in relation to menstruation; and in some animals copulation is necessary to bring about rupture of the ripe follicle. Moreover, I have shown that the interstitial cells alone can maintain the integrity of the uterus, at any rate in rabbits, the structure of the ovary of which lends itself to easy experimentation. Again, the implantation of the fertilised ovum is believed to be specially connected with the secretion of the corpus luteum. Much work has been done on this question since the original hypothesis of Born and experiments of Fraenkel. The production of artificial deciduomata by Loeb and others lends support to this view; yet there is much contradictory morphological and physiological evidence concerning the matter, which must, therefore, be considered a question for further investigation and elucidation. Nevertheless, it cannot be doubted that the ovarian secretions are essential to the well-being of the genital functions, local and remote. But in this connexion other organs of internal secretion, notably the thyroid and pituitary, are equally concerned; there is, indeed, no more striking demonstration in physiology than the rapid and destructive atrophy of the genital glands and ducts that follows certain operations on the pituitary.

Now, as to the indirect effects of the ovarian function in regard to genital activities, it requires little consideration of the facts to enable us to realise how deeply the whole organism is concerned. In Woman, for instance, it is possible to observe very clearly the general disturbances that are associated with menstruation. The menstrual cycle, promoted by the ovary, is, in my opinion, concerned in keeping the uterus on the one hand, and the general metabolism on the other, ready for the great opportunity, when, if it fructify, considerable demands will be made on the general metabolism for the nutrition of the child—nutrition that is first conveyed to it by means of the blood-stream and afterwards through the medium of the mother's milk. It comes about, therefore, that the mammæ must be kept potentially functional; and, indeed, at menstruation there is almost invariably to be recognised by the woman some increased degree of sensitiveness in the glands. Hesselberg and Loeb claim to have shown that there is a mammary cycle comparable with the uterine and ovarian cycles.

My views on the fundamental principles leading to milk-secretion are very simple; this function is, I believe, the result of a redirection of the nutriment, conveyed to the child in utero by the blood-stream of the mother, to the mammary glands after parturition. I do not think there is any doubt about the simplicity of the process—simplicity in interpretation, perhaps, rather than in chemical explanation, for the process of milk-formation is dependent, like the other genital functions, on an adjustment of the metabolism to the special purpose. And this adjustment is regulated by the organs of internal secretion, following sensitisation of the mammæ, possibly by the secretion of corpus luteum and the substances elaborated by the fœtal metabolism. The metabolism of this mother is, therefore, based on the same requirements during lactation as during gestation.

As to the more general part played by the ovary in mammary development our knowledge is fairly definite. Experiments have shown that castration before puberty prevents the further growth of the glandular elements. But once the mammæ have been fully developed and have secreted milk the influence of the ovaries is not so evident. Veterinary surgeons are unanimous, I believe, in stating that if castration be carried out during lactation the milk is improved in quality. It must, however, be the case, I presume, that cows castrated during lactation would only continue to deliver milk for a certain time, since conception could not occur again.

I have so far considered only the reproductive side of the picture; now I must glance at the other side—at the individual in whom all these wonderful processes are in train—and endeavour to see what compensations are bestowed upon her for the extortionate demands, as some may think, that are made in this respect. I propose to-day to deal only with physical matters, although the effect of the genital processes on the mind of Woman is far from negligible.

We rightly regard normality of structure and function as the highest ideal in physical life. What, then, are the most obvious advantages derived by the woman herself from the possession of normal genital functions? This question is perhaps best answered by the disclosure of those disturbances with which she suffers in the absence of genital activity, after having previously been normal. Such a condition may be brought about as already indicated by a variety of factors to many of which the genital inactivity is secondary. I am only concerned here with the effects of primary lesions in the genitalia; and for the sake of brevity I shall merely mention the most important general effects of ablation of the ovaries in adult life. A complete account of menopausal disorders in Woman is not necessary.

The changes which follow oöphorectomy in fully-grown animals are well known. Alterations are to be seen in most of the other organs of internal secretion. This, of course, is only to be expected. In the presence of normal genital functions all the ductless glands are engaged in controlling the metabolism to conform to the reproductive needs, which no longer exist after removal of the ovaries. Yet the natural menopause in Woman is usually a very gradual process, no doubt in order that the rest of the organism may be adjusted to the metabolic changes; and, in my experience, the more sudden the climacteric the worse the effect. Hence it is that oöphorectomy may lead to very obvious and distressing symptoms in Woman, whereas in animals the changes that occur after this operation are not noticeable—beyond an appearance of adiposity—on ordinary inspection, although they are often very evident on histological examination of the hormonopoietic organs, and on chemical examination of the metabolism. In Woman, however, in whom the nervous system and mind is highly sensitive, considerable alterations of the physical and mental processes may be manifest

to the casual observer, and the larger the balance of femininity a woman possesses the greater appears to be the upheaval caused by the sudden obliteration of the ovarian function. If now we reverse this point of view we find that the ovaries are of importance to the normal woman—apart from the benefits to her of gestation—owing to the place they occupy in regard to metabolism and the continued normality of the other organs of internal secretion on which her own physical and mental welfare depends. The thyroid gland especially appears liable to undergo pathological changes of a pronounced character after the disappearance of the ovarian secretion. The sympathetic control, too, always somewhat unstable in women, becomes more variable owing to the changes that take place in the calcium metabolism, which is so largely concerned in the reproductive processes. Moreover, the general metabolism, as shown by the consumption of oxygen and excretion of carbonic acid gas, is considerably reduced after oöphorectomy. I know of no statistics on the point, but it would be interesting to discover whether the age-limit is reduced by the induction of the premature menopause.

Even if we put aside the evidence of the laboratory it does not seem open to me to dispute that clinical observation shows that a majority of young sexually active women of a feminine type suffer very grievously if the artificial menopause be induced. I have seen such serious examples of this that I am compelled to refuse to believe those who assert that no serious consequences follow oöphorectomy. Obviously I do not include oöphorectomy in masculine women who are sexually inactive or in women passing through the menopause; nevertheless, I think that in all women menstruating regularly ovarian tissue should be conserved, and, if that be impossible, treatment with extracts should be substituted, especially when menopausal symptoms supervene. Nothing that I have said in regard to the ovary being dependent on the integrity of the rest of the organism affects the views I hold in regard to the value of the ovary to the organism when this is normal and essentially feminine.

I shall now discuss the practice—medical and surgical—that should be adopted in different circumstances to give a woman with whose ovarian function there has been interference the benefit of the ovarian secretions.

MEDICAL AND SURGICAL METHODS ADOPTED TO SECURE THE BENEFITS OF THE OVARIAN SECRETIONS.

Substitution and Supplementary Therapy.

The number of circumstances in which treatment with ovarian extracts has been thought to be indicated is very large. This department of endocrinology has, I think, suffered no less than the rest of the subject from speculation and unscientific reasoning. Imagination and perspicacity, which for many years have been assigned to the scientific dilettante, are to-day recognised as necessary equipment of the investigator; but all good gifts can be abused, and for this reason it still behoves us to look askance at generalisations and theories that are not the result of, or working basis for, solid research.

We are, some think, handicapped in regard to the therapeutical properties of the ovarian secretions in that, like the secretions of the anterior lobe of the pituitary and cortex of the suprarenals, they are what have been called "physiologically inactive"—a term that is full of crude misconceptions. It is true that injections of these extracts do not ring a bell, but they are not physiologically inactive; the results of ablation testify to this. Moreover, it has been stated that the active principles of the ovary have not been isolated. The truth of this statement, too, depends on what we mean by "isolation." If we mean that we do not know the chemical composition of the active principles, then the same statement applies to the wonderful extract of the posterior lobe of the pituitary. It is possible, however, that extracts made from the ovary do contain active principles, but that we do not know how to use them to the best advantage.

I shall not deal with the host of complaints supposed, rightly or wrongly, to be due to insufficiency of the ovaries, for which ovarian extracts have been recommended. For my part, I do not think the time has yet come when we can expect to obtain results from ovarian medication except in those cases in which definite ovarian inactivity exists, alone or in conjunction with disturbances elsewhere in the hormonopoietic system. In the last-named circumstances it is obvious that unless the changes elsewhere are dependent on ovarian insufficiency, the exhibition of ovarian extracts alone can hardly effect a change. This conclusion brings me to another point of great importance—namely, whether ovarian extracts alone are capable of producing desirable results. Of this I am extremely doubtful, as I shall indicate directly.

There has been much discussion—discussion which demonstrates the doubts and disagreements—concerning the portion of the ovary that should be used for medication. The extract of corpus luteum has been held by many to be the most active part of the ovary. Now this is very strange if it be true, for, as we have seen, the corpus luteum is probably concerned with the prevention of ovulation, and possibly with the implantation of the fertilised ovum. On the other hand, I have shown that the interstitial cells—at any rate, in the lower animals and probably in Man—preserve the integrity of the uterus and the function of menstruation. Since there is this difference of opinion the simplest way out of the difficulty is to use extracts made from the whole ovary, yet I do not think that the ovarian extracts alone are of much use. I have found, however, that in many cases most satisfactory results have followed the administration of ovarian and thyroid extracts combined. It is possible that thyroiodin has an activating action on the ovarian secretions. The dosage I employ is gr. v–x of ovarian whole-gland substance with gr. ½ of thyroid gland, taken three times a day after food. It is possible that better results may be obtained when extracts of these organs are injected into the tissues of the body. This method, however, is inconvenient, and I think oral administration in the way described is usually effective. I may say at once, for it is an obvious reply to question, that thyroid extract alone is not so satisfactory as the combination with ovarian extracts in the circumstances for which this treatment is required.

There is, I think, little doubt that ovarian and thyroid extracts are not of great service during the physiological menopause. In some cases they appear to give a certain amount of relief, but that relief depends on the presence in such cases of definite thyroid insufficiency. Ovarian extracts rarely alleviate the chief symptoms of the menopause—flushings and headaches. Until we know what normally induces—what is behind—the ovarian atrophy that occurs at the climacteric, we can only adopt symptomatic treatment. The administration of ovarian extracts may merely be like adding coal to the consuming fire. I do not think this point of view has received recognition. On the other hand, when the ovarian function is destroyed by a local pathological lesion or by operative extirpation of the glands, the conditions are probably totally different from those obtaining at the physiological menopause, which is no more a local manifestation than is menstruation. This is borne out by the better results obtained by the administration of ovarian extracts after castration; indeed, in these circumstances results are obtained in the human subject comparable with the benefits that follow ovarian medication in castrated animals—namely, a raising of the lowered metabolism and the production of stability in the calcium content of the tissues and in the sympathetic control. I conclude, therefore, that substitution-therapy is of most value in women under middle age to whom ovarian whole-extracts are given in conjunction with thyroid extract.

With regard to supplementary therapy, I am not very sanguine, and at any rate we must be sure of our ground. For example, the chlorosis of young women, which is associated with amenorrhœa, has received much notice in this respect. I have, however, satisfied myself, after the close observation of hundreds of cases, that the best and most rapid treatment of this disease

is with iron—*ferrum redactum* in massive doses—by which almost every case can be cured in six weeks with the return of menstruation. I mention chlorosis as an instance, because I do not believe that secondary ovarian insufficiency is common as a primary lesion: by this I mean that after the ovaries have been functional it is most exceptional for simple primary atrophy to occur in young women. When it does occur, or the menopause is premature, the symptoms are so slight that treatment with ovarian extracts is not required.

I must, however, again emphasise the fact that secondary ovarian insufficiency is very common as a sequel to many lesions elsewhere, and that in these cases it is possible that the exhibition of ovarian and thyroid extracts may be valuable as an *accessory* method of treatment.

Ovarian Grafting.

Ovarian grafting has been practised by a few surgeons for many years. The procedure has, however, not become general or been well recognised in this country. No doubt, disappointing results have led some operators to abandon a method that, at least, has advantages over total ablation. Again, some appear to have practised ovarian grafting more as a hobby than as a scientific procedure, and this has retarded progress. I have seen a surgeon of great continental repute remove the ovaries from the normal site and implant them intact in the muscles of the abdominal wall on occasions when, at any rate in my opinion, such a procedure was, to say the least of it, quite unnecessary. The indications for ovarian grafting are indeed few, and for the most part well defined. In my own cases in which this procedure was practised, 98 in number, on only five occasions was ovarian grafting employed apart from serious pelvic infections. This, then, is the most important indication, but even with pelvic infections ovarian grafting is often neither necessary nor justifiable.

In gynæcological practice gonorrhœa is by far the commonest disease capable of producing suppuration in the pelvis—that is, in the ovaries and tubes. Gonorrhœa is an ascending infection, and, therefore, produces lesions of varying severity in the uterus also. Infections of the pelvis from appendicitis and tuberculosis are less common, and when present the ovaries usually do not suffer such serious damage as is the case with gonorrhœal infections.

There can be few gynæcologists who have never had the experience of being obliged to open the abdomen at a longer or shorter period after a previous operation for salpingitis, because an ovary that had been left had become bound down with adhesions and was cystic. Encountering a number of these cases in my own practice and in the practice of others, I came to the conclusion that it is not worth while leaving an ovary in a badly-infected area, when further conception is impossible, owing to the frequency with which subsequent lesions occur. As I have said, some surgeons have solved this problem by frankly castrating the patient. I have adopted the method of ovarian grafting. My first operation on the human subject was performed in 1912, but it was not till 1916 that I adopted the procedure as a routine practice in certain well-defined circumstances.

The following points in regard to the technique of this procedure are important:—

(1) All grafts in the human subject must be autoplastic.

(2) After the ovaries have been removed the ovarian tissue from which the graft is to be cut should be dropped to the bottom of the pouch of Douglas, where it will be kept warm and moist until the end of the operation when it is required for grafting.

(3) When possible, healthy ovarian tissue, which may include all the elements of the organ, should be used. This should be criss-crossed with a sharp knife into adherent fragments, after the dense tunica albuginea has been removed, in order to favour rapid vascularisation of the grafted tissue.

(4) The graft, provided there is no suppurative infection of the ovary, may be placed in the rectus muscle before the laparotomy wound is closed. I have also implanted the graft in the uterus or in what was left of this organ. It is most important that the graft should be placed in a vascular site, yet it should not be surrounded with blood. Too much care cannot be taken in placing the graft among the muscle-fibres.

(5) If the ovaries be badly infected and more or less completely converted into the walls of abscess cavities, whatever tissue can be removed should be implanted in the internal oblique muscle alongside the drainage-tube, which in such circumstances is passed through a stab-wound well away from the central incision into the pelvis. I have, however, never seen an infected graft slough; moreover, in several such cases menstruation has subsequently occurred.

As already stated, there were five cases in which ovarian grafting was performed in the absence of pelvic infection. In four the lesion consisted of bilateral innocent neoplasms or a neoplasm in a remaining ovary. These cases are always difficult; for example, in one I removed a portion of the solid tissue from a large pseudomucinous cyst in a remaining ovary, the other having previously been removed by another surgeon for a similar lesion, and I implanted the fragment in a rectus muscle. The patient remained well for a year and menstruated some months after operation, but lately she has ceased menstruating and has had flushings. Ovarian and thyroid extracts have given her considerable relief. In the fifth case a lady, 30 years of age, had been a neurasthenic wreck ever since the birth of a child six years previously. Septic infection had followed delivery and the uterus had become completely atrophied, as a result of which there was amenorrhœa. At first the patient had suffered with great pain every month. The attacks of pain then gradually became of longer duration, until at last she was in constant suffering. The abdomen was marbled with pigment as the result of the thermotherapeutic measures adopted by the patient in her efforts to obtain relief. The mental condition was typical of extreme neurasthenia, and the loss in weight of 22 lb. in eight months emphasised the state at which she had arrived. Two abdominal sections, including the removal of the appendix, had failed to relieve. I thought over this case, and it occurred to me that if the ovaries were active, as seemed probable from the history of recurring pain, it might be expedient to remove the ovarian tissue—the uterus was functionless—from its nervous connexions and place it elsewhere. I carried out the procedure with complete success. A subsequent rest-cure—a method of treatment which had been tried before operation without success—enabled the patient to regain 21 lb. of the weight she had lost. Some months afterwards her doctor wrote: "She said quite casually 'I have none of the old pain.'" And later, in April of this year, he wrote: "Mrs. —— has never had any of the old pain. She still has colitis at times, and that is her only trouble."

The following table gives a statistical summary of all my cases of ovarian grafting in the human subject.

There are one or two points which are not shown in this record that are worthy of note. In many cases in which menstruation eventually became established the patient had complained of flushings and other symptoms of the menopause, which had vanished when menstruation appeared. This is interesting, for it establishes the fact that in these cases all ovarian tissue had been removed at the operation, and that menopausal phenomenon were present until the secretion from the implanted ovarian tissue became available. In such circumstances I have found that ovarian and thyroid extracts not only give relief, but appear to induce an earlier appearance of functional activity in the graft.

In three of my case-records of ovarian grafting it is stated that small pieces of ovarian tissue may have been left adherent in the pelvis. This point was always carefully noted. In two of these cases menstruation occurred; in the third menopausal symptoms followed operation. It is obvious, nevertheless, that such fragments could only be looked upon as unintentional grafts.

In only a few cases is menstruation regular after ovarian grafting. It usually recurs at longer intervals than normal—that is to say, every six weeks or two months. Some patients menstruate a few times and then cease, and minor symptoms of the menopause may appear.

Author's Cases of Ovarian Grafting in the Human Subject.

I. Total number of cases recorded, 98.

Indication for operation:—

A. Salpingo-oophoritis	Primary lesion	84
	Associated appendicitis	4
	With fibromyomata uteri	5
B. Innocent neoplasms, bilateral or of remaining ovary		4
C. Ovarian pain with functionless uterus		1

II. Total number of cases excluded, 31.

A. Operations within six months	10
B. Death after operation	1
C. Failure to obtain after-histories	20

III. Total number of cases analysed, 67.

A. Number of cases in which menstruation was possible	57
(*a*) Number of cases in which menstruation occurred	38 (66·6%)
(*b*) Number of cases which did not menstruate and in which there was no menopausal symptom	9
(*c*) Number of cases which did not menstruate and in which there were menopausal symptoms	10
B. Number of cases in which subsequent menstruation was impossible owing to supravaginal or complete hysterectomy having been performed	10
(*a*) Number of cases in which menopausal symptoms did not occur	7
(*b*) Number of cases in which menopausal symptoms occurred	3
C. (*a*) Number of cases in which functional results were obtained	54 (80·6%)
(*b*) Number of cases in which there was failure to obtain functional results	13 (19·4%)

In one case a small Graafian follicle retention-cyst developed, and this led to continuous bleeding from the uterus. Recently I excised the cyst from the rectus muscle with the patient under the influence of a local anæsthetic. In two other cases painful swelling in the graft associated with rather profuse menstruation was observed for some months.

It is striking that in 66·6 per cent. of the cases analysed menstruation should have occurred in spite of the fact that in nearly all a transverse wedge-shaped piece of the infected fundus uteri was excised. In three cases the menopausal symptoms were severe. In a very large majority of all those who complained of flushings it was, however, only by a leading question that an answer in the affirmative was obtained.

The longest period during which any of my patients has menstruated regularly is four years. As this patient is now 36 years of age she may continue to menstruate for several years. Other patients are still menstruating regularly—that is, with no longer interval than eight weeks—for over three years.

My conclusions, then, based on a fair experience, lead me to advocate very strongly the practice of ovarian grafting in suitable cases. Nevertheless, I wish again to insist that this procedure be looked upon as a measure of necessity, which can never be weighed in the balance against the preservation of the natural connexions of the normal ovary.

While endeavouring, from an examination of the information at our disposal, to assign to the ovary its place in the economy of woman, I have, I hope, made clear my belief in the sanctity of the task entrusted to those of us who deal with important living structures, knife in hand. The search after surgical knowledge is the search after better ways of assisting Nature to fulfil her purpose amid the manifold disharmonies of incomplete evolution. We have, therefore, no right wantonly to destroy. Rather must we strive to preserve intact and, if this be impossible, to foster or to substitute to the best of our ability in imitation of the original design.

THE LATE DR. A. D. CLARK.—Arthur Desborough Clark, M.R.C.S., L.R.C.P. Edin., who died suddenly from pneumonia after a short illness at Hove on Oct. 19th, was one of the best-known medical practitioners in the town. Dr. Clark was 53 years of age and his death is a distinct loss to the medical profession. For 25 years he had been associated in practice with Dr. Arthur H. Dodd, and he will be missed by a large circle of patients and friends.

An Address
ON
PARLIAMENT AND PUBLIC HEALTH.

Being the Concluding Section of the Presidential Address to the Society of Medical Officers of Health delivered on Friday, Oct. 22nd,

BY LIEUTENANT-COLONEL F. E. FREMANTLE, O.B.E., M.P.,
CONSULTING COUNTY MEDICAL OFFICER, HERTS COUNTY COUNCIL.

LET us now briefly consider what the Government have done for the health of the people in the past, what they can do in the future, what they now propose to do, and how we can through Parliament help them to do it.

THE ACHIEVEMENTS OF GOVERNMENT IN THE PAST.

The early Victorian attitude in matters of health, and the far-sighted views of some of our leading statesmen may be illustrated by a delightful reply from Lord Palmerston in 1853 to a correspondent who proposed a proclamation of a national fast on account of the outbreak of cholera in 1853. The letter is from Evelyn Ashley's "Life of the Statesman." I do not suppose there is a private secretary living nowadays who would dare to write such a reply.

"Whitehall, 19th October, 1853.

SIR,—I am directed by Viscount Palmerston to acknowledge the receipt of your letter of the 15th instant, requesting, on behalf of the Presbytery of Edinburgh, to be informed whether it is proposed to appoint a day of national fast on account of the visitation of the cholera, and to state that there can be no doubt that manifestations of humble resignation to the Divine Will, and sincere acknowledgments of human unworthiness, are never more appropriate than when it has pleased Providence to afflict mankind with some severe visitation; but it does not appear to Lord Palmerston that a national fast would be suitable to the circumstances of the present moment.

The Maker of the Universe has established certain laws of nature for the planet in which we live, and the weal or woe of mankind depends upon the observance or the neglect of those laws. One of those laws connects health with the absence of those gaseous exhalations which proceed from overcrowded human beings, or from decomposing substances, whether animal or vegetable; and those same laws render sickness the almost inevitable consequence of exposure to those noxious influences. But it has at the same time pleased Providence to place it within the power of man to make such arrangements as will prevent or disperse such exhalations so as to render them harmless, and, it is the duty of man to attend to those laws of nature, and to exert the faculties which Providence has thus given to man for his own welfare.

The recent visitation of cholera, which has for the moment been mercifully checked, is an awful warning given to the people of this realm that they have too much neglected their duty in this respect, and that those persons with whom it rested to purify towns and cities, and to prevent or remove the causes of disease, have not been sufficiently active in regard to such matters. Lord Palmerston would, therefore, suggest that the best course which the people of this country can pursue to deserve that the further progress of the cholera should be stayed will be to employ the interval that will elapse between the present time and the beginning of next spring in planning and executing measures by which those portions of their towns and cities which are inhabited by the poorest classes, and which, from the nature of things, must most need purification and improvement, may be freed from those sources and causes of contagion which, if allowed to remain, will infallibly breed pestilence and be fruitful in death, in spite of all prayers and fastings of a united but inactive nation. When man has done his utmost for his own safety, then is the time to invoke the blessing of Heaven to give effect to his exertions.

I am, Sir, your obedient servant,
(Signed) HENRY FITZROY."

It was in accordance with such far-sighted statesmanship that the Royal Sanitary Commission was appointed in 1869, resulting in the establishment of the Local Government Board in 1872, and the passing of the Public Health Act of 1875. The main measures that ensued were those for the water-supply in 1878, for housing in 1890, for factories in 1891, for medical inspection in schools in 1906, to mention only a few. But the

evil of each successive new Act has been the creation in many instances of a new body of officials and local authorities under different Government departments. It was for that reason that the Ministry of Health was created last year, and has now issued a report of its first year's activities, showing that a beginning has been made in the process of concentrating health measures under the one Ministry.

THE PROPER AIMS OF A MINISTRY OF HEALTH.

But those of us especially who have served with the Army Medical Service in the war feel that the object to be aimed at by the Ministry must be comparable to that of the Army Medical Service, which is responsible for the whole idea of health and physical efficiency, in the nation, under whatever department it may come, and not merely for the execution of certain Acts. We look to the Ministry of Health to advise the Government on all health matters in which the Board of Education, the Board of Trade, the Ministry of Pensions, the Ministry of Labour, the Home Office are concerned—to coördinate the medical work of all departments, including those of the fighting services and the India and Colonial Offices, in order to cover the whole ground. We look to them to inspire and secure coöperation between local authorities, as well as to secure unification so far as it may be possible. We look to them also to recognise the function of, and to use and help voluntary bodies, as the War Office and Admiralty recognised and valued the importance of the Red Cross during the war. For voluntary bodies initiate effort in small areas; they try experiments, and it is not until they have proved their value that the measures they suggest can be incorporated into the State system. In turn they play a most important part in arousing, maintaining, and spreading public enthusiasm for health work—an enthusiasm that is of no less importance in the maintenance of individual and family health as in ensuring a proper carrying out of their duties by the representatives of the people in local and national Government. It is the privilege of medical officers of health to give a very great amount of often troublesome and exacting help to these voluntary bodies. Let us not under-rate the value of such help.

What then do the Government propose to do in the near future for the improvement of national health? It is significant that the chief activities of the Ministry of Health at the present time in the public eye are concerned with the housing of the people. Proper housing affects the social and individual habits of the nation even more than it affects their bodily health, and both directly and indirectly it is of primary importance to the national health that the shortage of housing shall be removed at as early a date as possible. But the Government are rightly concerned with the spirit as well as the matter of national life. They maintain that in general private enterprise is more effective and more suitable to the individual needs of the workers than direct production by the State. Our schemes or advice in matters of housing must always take this general desire into account. Housing, like other matters, should in the future, as in the past, be managed by private enterprise. The State should only undertake constructive housing when, where, or in so much as private enterprise fails.

GOVERNMENT MEASURES IN PROSPECT.

There are many useful measures which the Government propose at an early date to pass into law. The Milk Bill and the Tuberculosis Regulations of the Board of Agriculture are amongst the most important. The tuberculosis measures omitted from the new Insurance Act will be awaited with great and critical eagerness. But here I would especially lay stress on the future relationship between clinical and preventive medicine, and the measures suggested in the Interim Report on the Future Provision of Medical and Allied Services, by the Consultative Council, under their chairman, Lord Dawson.

By some it is imagined that the clause in the Ministry of Health (Miscellaneous Provisions) Bill now before Parliament allowing County Councils to subscribe to voluntary hospitals, or to maintain hospitals of their own, is intended as a substitute for general action on the problems raised by the Consultative Council. But this is surely a mistake. The voluntary hospitals as they at present stand fulfil a vital need. Some medical provision is immediately required for the great housing schemes now in progress. The clause in the Miscellaneous Provisions Bill is surely only a stop-gap proposal to continue the provision of medical aid until the problem can be dealt with as a whole. But in considering the future relations between clinical and preventive medicine, between public and private practice, medical officers of health will look sympathetically upon any scheme which is likely to embody in a single practical system the different branches of medical work. For there is no absolute distinction between curative and preventive practice. We hear much nowadays of specific cure of disease: may we not introduce the term "specific prevention of disease," which arises from the same train of observation and experience? Prevention of disease in the earliest stage, in out-patients' departments and in clinics, is an essential part of prevention; while, on the other hand, it is those who visit the homes of the people, whether as sanitary inspectors, nurses, health visitors, midwives, or doctors, that can save the hospitals from congestion and secure the comfort and well-being of cases when they return from hospital to their homes.

RELATION OF PREVENTIVE AND CURATIVE MEDICINE.

To the physicians and surgeons, too, of the country, and above all in the medical schools, I would make an appeal. Their diagnosis at the bedside seldom goes further back than the causa causans of the malady—generally nowadays a micro-organism—and a very inadequate inquiry into family history. It is submitted that this is not a final diagnosis of the disease to its roots. In teaching, in examination, in practice, it should be followed up by the student to the homes and factories. It is to the conditions of the patient's daily life and habits that the disease is due, quite as much as to the germ. Closer relationship between hospital conditions and home and factory life should be incorporated into the teaching and training of medical students and into the whole progressive thought and writings of medical science.

We whose duty it is to look at disease in the mass in the national interest, with a view to its reduction and prevention, have only an infinitesimal share in deciding and giving the proper training to the medical student. In the interest of the State we demand that this anomaly shall be drastically revised. Harley-street knows little of this aspect of medical work. It is not their fault, and they have an immense advantage over us in professional position and, in general, in academic gifts. Nor can we claim for ourselves the sole right to organise and administer the unified system of medical provision, which the country requires. For, as the war has shown, hospitals and asylums can also provide good administrators with a modern outlook. The ultimate object must be the creation of a type, in civil life as in the Army Medical Service, of men who have an all-round knowledge of clinical as well as of preventive and sanitary medicine, and are trained to administration. Meanwhile the new system must be inaugurated, and we only demand that we shall not be called on to serve under those who have not, at least, a broad-minded comprehension of the main requirements and possibilities of preventive medicine in the mass.

In the same way I feel the gravest disabilities are incurred by the divorce between preventive and clinical practice, between the private practitioner and the medical officer of health. The result is shown, for instance, in the institution of tuberculosis clinics, requiring, but often failing to supply, both the knowledge and methods of the best private practitioners, and the system, organisation, and general outlook of the broad-minded medical officer of health. The future rests, to my mind, neither entirely with the whole-time service of State officials nor with the system of purely private practice subject to certain statutory obligations, but in an adequate and well-thought-out policy combining all aspects and systems of bringing help into the intimate life of the people.

THE MEDICAL MAN IN PARLIAMENT.

Finally, therefore, we have to consider in what way we can assist towards the Parliamentary decisions of these problems. An individual Member of Parliament obviously carries but little weight under a democratic system. The Ministry is responsible to the whole nation for its action. An individual Member brings forward a proposal, however good, backed by a society, however important; but the Minister must be assured before he acts upon it that in doing so he will have the support of the bulk of the people when they come to understand it. Medical men in the present House of Commons are 11 in number, and all but the Minister of Health have formed themselves into a Medical Committee, with Captain W. Elliot, M.C., as their secretary, and Sir Phillip Magnus and Sir Henry Craik attached to them as representing University constituencies embodying a considerable block of medical votes. This Committee meets monthly or more often as required. It receives deputations from organisations anxious to bring matters before them. Individually, they undertake to ask questions of Ministers concerned, to speak in debate on matters of importance to public health, to approach Ministers, and, so far as they can, to collect information. Dr. Addison has shown the greatest sympathy with this Committee, and we have no difficulty in securing a friendly hearing whenever required. But over and over again his reply has necessarily to be qualified by the limited amount of time and money available for Government measures and the limited proportion allotted to his department. The same applies to matters affecting the medical services of other Government departments. The chief thing required at our back is a strong public opinion throughout the country focussed on the 700 Members of Parliament, on whom Ministers could rely for support in any action they take on our suggestion, and then we should not apply in vain. Without this it is of little value to introduce a private Member's Bill or a resolution. But some good has probably been done by conferences to which all members have been invited—one, for instance, to discuss the problems connected with venereal disease, another to hear an admirable account from Sir Walter Fletcher on the work of the Medical Research Council. In such ways some effect can be produced in arousing Members to the importance of health problems to their own constituencies.

But in bringing proposals before the House and in calling for inquiries into defects it is necessary to be well briefed. Briefs have in some cases been prepared for us—e.g., by the British Dental Association or by the British Medical Association, whose parliamentary work deserves fullest recognition from this society. But there is a real need of a body on behalf of all concerned, to maintain the constant supervision over all health questions as they come, or may come, before Parliament; to focus medical opinion on such occasions, to give us opportunity for their presentation, and to arrange that each case shall be properly dealt with as it arises, with the strongest possible support behind it. There must be no division of opinion. Ministers love to ride off a difficulty by saying that "doctors differ." We must coöperate heartily with the British Medical Association, the Royal Sanitary Institute, the Royal Institute of Public Health, and all similar bodies, not forgetting the Queen Victoria's Jubilee Institute for Nurses, the National Association for Prevention of Infant Mortality, and other voluntary organisations. The Federation of Medical and Allied Societies have considered the possibility of such an undertaking. The British Medical Association have considerable machinery and have done a good deal already in this direction, especially in questions of the Services and in general medical organisation. I would submit the suggestion to this society that the time has now arrived when they should consider in what way their experience and ideals can best be made available for effecti ve use by their medical and lay sympathisers in Parliament.

Medical officers of health are the firm link between the lives of the people and their Government. The future of the country is now, more than ever, very largely in their hands.

THE MYTH OF "ATYPICAL" ENTERIC FEVER.*

BY R. P. GARROW, M.D. ABERD., D.P.H.,
ASSISTANT MEDICAL OFFICER OF HEALTH, EALING; LATE TEMPORARY CAPTAIN R.A.M.C.

THERE is, perhaps, no disease or group of diseases which has presented greater difficulties of diagnosis to clinicians and pathologists on active service than the enteric group. Anti-enteric inoculation is believed to have given rise to all sorts of "atypical, abortive, and clinically unrecognisable forms" of enteric, and has at the same time greatly increased the difficulties of laboratory diagnosis.

The conscientious diagnostician deliberately or unconsciously goes through three processes before finally arriving at a diagnosis. The first is the collection of all the evidence from every available source—clinical, bacteriological, and serological. This is a laborious process and implies daily scrutiny of the patient and, in difficult cases, repeated examinations of every region and organ of the body, together with frequent examination in the laboratory of specimens of blood, urine, and fæces. The second process is the attachment to each piece of evidence, clinical and pathological, of its correct relative weight for or against enteric—in many cases a very difficult matter. The final process is that of placing the evidence thus sorted in the balance. In the great majority of cases which are completely investigated one or other scale comes down definitely and the diagnosis is certain. The number of cases which remain in doubt should be negligible.

While enteric diagnosis has its special fascinations for clinician, bacteriologist, and serologist, nowhere in medicine is there greater necessity for close coöperation between ward and laboratory. A really satisfactory diagnosis should be supported by both clinical and pathological evidence. A bacteriological diagnosis unsupported by any clinical evidence is just as unsatisfactory as a clinical diagnosis for which no pathological support can be found.

Unfortunately the war literature of enteric fever shows little indication of such close coöperation and sifting of evidence. The tendency has been to rely on the penny-in-the-slot method of laboratory diagnosis. In many cases it is indeed obvious that the clinician has been completely dominated in the matter of diagnosis by the pathologist, neither of them apparently having been fully alive to the many pitfalls and fallacies attaching to laboratory findings and their interpretation.

New "Types" of Enteric Fever.

A direct result of this situation is the remarkable number and variety of new so-called "types" of enteric fever which have come to light during the war. The clinician has frequently been surprised and puzzled at the receipt of a report from the laboratory that enteric bacilli have been recovered from the urine or fæces, or certain agglutinins have been found in the blood-serum of a patient who presents none of the signs and symptoms of enteric, and who was never even suspected of suffering from enteric. Obsessed by the idea repeatedly instilled into him by the bacteriologist, that a bacteriological diagnosis is necessarily a correct diagnosis, he finds refuge in that blessed word "atypical." The patient is said to be a case of "atypical enteric fever." If he presents the signs and symptoms of dysentery he is a case of "enteric fever of the dysenteric type"; if he happens to be a classical example of malaria he is labelled "enteric fever of the malarial type"; if he shows the symptom-complex of trench fever he is diagnosed "enteric fever of the trench fever type"; while if, as often happens, he shows no symptoms at all, he is, of course, a case of "enteric fever of the afebrile type."

There is no limit to the number and variety of "types" of enteric fever which may be discovered in this fashion—the process can be continued indefinitely.

* By "enteric fever" is meant bacillæmia with one or other of the typhoid or paratyphoid organisms.

No wonder that the idea of diagnosing this "protean disease" clinically has been abandoned, and that diagnosis has in some quarters been left to the laboratory.

The clinician, under these perplexing difficulties, has found consolation in the reflection that inoculation has so modified the enteric fevers as to make them, in many cases, clinically unrecognisable. This is an almost universal belief and finds support in the analogy of modified small-pox in vaccinated subjects. I believe this view to be erroneous. I am convinced, from an extensive first-hand experience of both clinical and laboratory aspects of the enteric fevers, that these infections, whether in inoculated or uninoculated patients, remain remarkably constant in their clinical manifestations and true to type.

I believe that enteric fever is frequently undiagnosed but practically never undiagnosable clinically. And the object of this paper is to examine the evidence and expose the fallacies on which "atypical enteric fever" has been built up.

Personal Experience.

It may perhaps be well to indicate generally the experience on which these unorthodox views are based. I spent from July, 1915, to June, 1916, at the Military Infectious Hospital, Imtarfa, Malta—a hospital of over 1000 beds for infectious cases—being chiefly intestinal infections, at first from the Gallipoli Peninsula, and later from Salonika and other parts of the Mediterranean war area. Upwards of 2000 cases of enteric or suspected enteric were admitted during that period. While acting as medical officer in charge of wards I had ample opportunities of studying the clinical, bacteriological, and serological aspects of the enteric problem. This was followed by a similar experience of one year at the Military Infectious Hospital, Choubra, Cairo, which received enterics, dysenteries, and other infectious cases in all stages of their illness from Cairo, the Delta district, the Canal zone, the Sinai desert, and the Western frontier. Finally, as officer in charge of a bacteriological laboratory in East Africa for 18 months I had further opportunities of studying the subject. During all the time no question interested me more than enteric diagnosis, and owing to the kindness of my colleagues I had free access to all the clinical and pathological material available. I kept a careful watch for "atypical" enteric, but failed to find any.

It may be wise at this stage to define as closely as possible what one means by (*a*) "typical enteric fever" and (*b*) "atypical enteric fever."

Definition of Typical and Atypical Enteric: (a) Typical Enteric Fever.

The enteric fevers are particularly rich in physical signs and symptoms, some of which are of striking character, constantly or nearly constantly present, and therefore of cardinal importance, and others less striking and less frequently present and therefore of lesser importance. The cardinal signs of enteric fever are: (1) continued pyrexia of remittent type ending by lysis; (2) a low pulse-temperature ratio; (3) characteristic toxæmia; (4) splenic enlargement; (5) an eruption of so-called "rose spots." It is not pretended that the above list exhausts the important clinical data on which enteric is diagnosed. Much important diagnostic information may be obtained from the history of onset, the headache, aches and pains in body and limbs, giddiness, loss of appetite, diarrhœa and constipation, from which enteric patients may suffer. But I believe that a careful consideration of these five signs will lead in the great majority of cases to a correct diagnosis.

(1) *Pyrexia.*—This is by far the most important sign of active enteric infection. It is always present, and never in my experience, departs from the type described. I do not mean that all temperature charts of cases of enteric fever conform to one pattern in every detail. The temperature may be high or low, the daily remissions may be great or small, the pyrexia may be long (six weeks) or short (six days) duration, the onset may be sudden with maximum temperature on the first or second day of the disease, or gradual with step-ladder-like rise, and lysis may be rapid or very slow. These differences give an infinite variety of temperature charts in enteric fever, but all within the type described. I believe that enteric fever may be excluded from the differential diagnosis of a case if the temperature chart shows any one of the following five features—

(*a*) Temperature normal or subnormal throughout the entire illness (so-called "afebrile type of enteric fever").
(*b*) Temperature reaches normal or subnormal at some period of the twenty-four hours on every day of the illness from the first to the last (so-called "intermittent type of enteric fever").
(*c*) Temperature chart shows perfect tertian or quartan periodicity throughout (so-called "malarial type of enteric fever").
(*d*) Temperature chart shows a series of short relapses of one to three days' duration at frequent intervals (so-called "trench fever type of enteric fever").
(*e*) Temperature chart shows continued pyrexia ending by a genuine crisis (so-called "type of enteric fever ending by crisis").

(2) *A low pulse-temperature ratio.*—In order to estimate this sign the normal pulse-temperature ratio in health and disease is assumed to be:—

Temp.	98	99	100	101	102	103	104	105	106
Pulse	70	80	90	100	110	120	130	140	150

In enteric fever the pulse does not rise pari passu with the rise of temperature. It is common to find a pulse 20, 30, or 40 beats per minute slower than that shown in the above ratio—for example, a temperature of 103° F. with a pulse of 80. It is a useful plan to have pulse charted in red ink on the temperature chart. In this way a very striking sign of great diagnostic importance is brought out graphically.

(3) *Characteristic toxæmia.*—The toxæmia of the enteric fevers is very characteristic, and frequently strikes the physician on first glancing at the patient. There is a dull, heavy, apathetic appearance, with moist face and flushed cheek. In mild paratyphoid infections this sign may be present to a very slight degree or practically absent.

(4) *Splenic enlargement.*—Some enlargement of the spleen is practically a constant feature of active enteric fever. It may take place so rapidly that the lower pole of the spleen is felt below the left costal margin on the third day of the disease or so slowly that the spleen is not felt till the third week or later, when the temperature may be normal. It is, in my experience, rare for the spleen not to be distinctly felt at some stage of the illness (it may be only for a day or two) in those cases where one has an opportunity of daily observation throughout the entire illness and convalescence. The enlarged spleen is slightly tender and has a sharp edge.

(5) *Eruption of so-called "rose spots."*—At some stage of the illness in the great majority of enterics there appears an eruption of characteristic small, round, or lenticular, slightly raised, rose-coloured spots. The eruption varies in extent from a few spots to a profuse rash covering the entire body from scalp to soles of feet. When scanty the site of the eruption is the abdomen, flanks, and back. When moderate in amount 90 per cent. of the eruption lies on these regions between the level of the nipples and the iliac crests.

When all these five cardinal signs are present enteric fever is an unmistakable clinical entity. And it is my experience that in the majority of cases in which the enteric nature of the disease has been conclusively demonstrated by successful hæmoculture the full array of cardinal signs were found sooner or later during the illness. I have never seen a case proved enteric by hæmoculture which did not present the first and at least two of the remaining four signs.

This, then, is the minimum clinical evidence which, in my opinion, justifies a diagnosis of enteric fever. Any case which presents this minimum should, in spite of negative laboratory findings, be diagnosed clinically as enteric until there is better evidence that it is something else.

(b) Atypical Enteric Fever.

The phrase "atypical enteric fever," to which I take exception in this article, may be defined as applying to any case which not only fails to present the minimum clinical evidence of enteric, but presents the classical features of some other disease.

Marris's atropine test.—A very valuable addition to clinical methods of diagnosis in the enteric fevers has been made by Marris, who discovered that while a normal person (or a patient suffering from an illness other than enteric fever) reacts to a subcutaneous injection of 1/33 of a grain of atropine by cardiac acceleration of 15 or more beats per minute within 25 to 45 minutes of the injection, a patient suffering from any of the enteric infections fails to show this response. A full account of this novel method, together with a discussion as to its value, will be found in Dr. Marris's Report to the Medical Research Committee (Special Report Series, No. 9). There can be no question about the great value of this aid to clinical diagnosis, and Marris's claim that "there is no test, clinical or pathological, which

approaches the atropine test in speed simplicity and reliability for sorting inoculated patients, suspected of enteric, into two groups of 'enteric' and 'not enteric,'" is probably justified.

Reservations with Reference to "Atypical" Enteric Fever.

To avoid misunderstanding the following five reservations are made with reference to "atypical" enteric fever:—

(1) The statement that enteric fever is frequently undiagnosed, but practically never undiagnosable clinically, might well convey the impression that in the writer's opinion the clinical diagnosis is always easy. On the contrary, I believe, and began by stating, that no disease met with in military practice presents greater difficulties of diagnosis to both clinician and pathologist. The clinical difficulties are, indeed, greater than the pathological. All the technique that is required for the complete pathological investigation of the enteric fevers can be mastered in a few months. A relatively short period of training serves to turn out an "expert bacteriologist"—so far as one group of organisms is concerned. It takes years of clinical application to produce an experienced physician. But clinical experience and clinical alertness are the first essentials if cases of enteric are not to be missed.

(2) It is necessary to distinguish between the qualifications "mild" and "atypical" as applied to enteric infections. Enteric in inoculated and uninoculated subjects may be so mild that the patient does not report sick, and there is therefore no opportunity for correct diagnosis. But the mildest cases, when carefully observed under favourable conditions in hospital, are often found to show all the cardinal signs of the disease. Such cases cannot from their mere mildness be called "atypical."

(3) On the other hand, the severer cases are apt to be accompanied by complications which mask the nature of the general infection by attracting attention to one particular organ or region of the body. For example, there may be irritation of the brain or meninges—a condition of "meningism" if not actual meningitis—which may lead the clinician to suspect cerebro-spinal fever. There may in another case be a massive pneumonia. A third case may report sick on account of phlebitis in the femoral vein. It is the writer's opinion that however obtrusive these unusual features or complications may appear at first sight, complete physical examination of the patient will always furnish evidence of enteric infection if this is the source of the trouble.

(4) Even more misleading is the association of mild enteric with some other infection. In the tropics enteric and malaria frequently coexist. Where mixed infections exist the enteric element may again be masked, but its presence should ultimately be elucidated by the clinical course of the illness.

(5) This discussion is confined to acute primary enteric fever—that is to say, a disease which at some period is an active septicæmia or bacillæmia. Such sequels of enteric infection as abscess of bone with spontaneous fracture, suppuration of ovarian cyst, suppuration in the peritoneum or pleura, or other parts caused by enteric bacilli, are admittedly conditions which cannot be recognised clinically as of enteric origin, and are not included in the title of this paper.

With these five reservations, it is the writer's opinion that acute primary enteric infections all belong to one type—the "enteric type"—and never assume the clinical characteristics of other diseases. The greatest difficulty in clinical diagnosis is not on account of enteric imitating other diseases, but on account of other diseases imitating enteric.

Evidence for "Atypical" Enteric Fever.

"Atypical" enteric fever is essentially the phantom product of bacteriology. The evidence of enteric infection in these "atypical" cases is entirely laboratory evidence. If cases presented clinical evidence of enteric they could not be regarded as "atypical." In order, then, to examine the evidence on which "atypical" enteric fever rests, it will be necessary to summarise the different kinds of diagnostic data that may be obtained in the routine laboratory investigation of the enteric fevers. This is done in Table I., which should be studied at this stage of the argument.

Explanation of Table I.—In column 1 are given the various bacteriological and serological findings which are obtained; in column 2 is furnished the inoculation state of the patient (which has to be taken into consideration in interpretation); and in column 3 are set forth the usual interpretations attached to these findings. At the foot of the table the value of the diagnostic evidence is stated. It will be observed that the laboratory evidence of enteric is divided into eight groups. Group 1 refers to hæmoculture, groups 2 to 7 refer to agglutination, group 8 refers to culture of excreta (urine and fæces). These three methods may be considered in turn.

TABLE I.

No.	Bacteriological and serological data.	Inoculation state of the patient.	Interpretation.
1	T. or A or B recovered by hæmoculture.	Immaterial.	T. or A or B infection.
2	Series of agglutination tests showing a well-marked agglutinin wave starting from zero for T. or A or B.	Not inoculated.	T. or A or B infection.
3	Series of agglutination tests showing a well-marked agglutinin wave starting from zero for A or B (behaviour of the T. agglutinin immaterial).	T. vaccine.	A or B infection.
4	Blood, examined once, agglutinates T. or A or B.	Not inoculated.	T. or A or B infection.
5	Blood, examined once, agglutinates T. and A, or T. and B, or T., A and B.	T. vaccine.	A, or B, or double A and B infection.
6	Series of agglutination tests show a fluctuation of the T. agglutinin without any agglutinin for A or B.	T. vaccine.	T. infection.
7	Series of agglutination tests show a fluctuation of one or two or all three inoculation agglutinins.	T., A, B vaccine.	T. or A or B infection as the fluctuation may indicate, or merely "enteric group infection."[1]
8	T. or A or B recovered by culture of excreta (urine or fæces or both).	Immaterial.	T. or A or B infection.

[1] When its characters are not sufficiently distinctive.

Value of the diagnosis (assuming no error of technique).—Group 1, conclusive. Groups 2 and 3, practically conclusive. Groups 4 to 8, inconclusive.

Note.—Laboratory findings which come under categories 4 to 8 in the above table require careful interpretation in relation to the clinical data. The acceptance of such evidence as proof of enteric infection has given birth to "atypical" enteric. Evidence of this kind cannot be admitted as good ground for creating new "types" of enteric for reasons fully explained in the text.

(1) *Hæmoculture.*—About hæmoculture in the diagnosis of the enteric infections little need be said, except to emphasise its extreme importance. This is all the more necessary because exaggerated accounts of the results obtainable by other laboratory methods have sometimes been so compared with the disappointingly large proportion of "negative" hæmocultures as to convey to the reader the impression that blood culture is a method of secondary importance.

Hæmoculture is not only the first but by far the most important laboratory method of tackling enteric diagnosis. A successful hæmoculture is the only single piece of evidence (laboratory or clinical) which in itself furnishes conclusive proof that the patient is suffering from active enteric infection. Moreover, it is the method by which our knowledge of the enterics is most likely to be extended and rendered more accurate. No other method, laboratory or clinical, can equal it in the scientific value of its results. Hæmoculture is the one laboratory method of diagnosis which can be exonerated from blame in the creation of "atypical" enteric. Cases in which enteric bacilli are isolated from the blood invariably display the clinical picture of enteric fever; that, at least, is the writer's experience. But the question arises: Is enteric fever *always* a bacillæmia? The answer has an important bearing on the subject of "atypical" enteric. The following train of events represents the modern conception of what happens in enteric infection. Bacilli are swallowed; some survive the acidity of the stomach and enter the alkaline intestine, where they exercise a selective affinity for the collections of lymphoid tissue forming the solitary follicle and Peyer's patches. Here they multiply and produce a hyperplasia of the lymphoid tissue. This may be mild or so severe as to be followed by necrosis and sloughing of the lymphoid tissue, resulting in ulceration. In the meantime, the bacilli have passed by the lymphatic channels of the mesentery to the lymphatic glands of the mesentery and posterior abdomen, and thence via the thoracic duct into the

blood stream. This progress of the bacilli takes place during the incubation period, and the onset of the fever nearly corresponds with the commencement of bacillæmia. Another conception of the pathology of enteric is that the bacillæmia is primary and the infection of the intestinal lymphoid tissue secondary.

Which of these conceptions finds favour is a matter of little moment, so far as the present discussion is concerned, the important question is whether the bacilli enter the blood-stream at some stage of the process *in every case*. If the answer is in the affirmative, then it follows that every case of enteric is theoretically capable of conclusive diagnosis by hæmoculture; if in the negative, this crucial test of active infection cannot be insisted on in every case. It is possible that preventive inoculation may so influence the growth, multiplication, and distribution of the organisms that these never get beyond the abdominal lymphatics. The difficulty of recovering enteric bacilli from the blood of inoculated soldiers is well known, even in the early stages of illnesses which clinically resemble enteric. It would be unreasonable to expect that every case of "atypical" enteric fever should be proved by blood culture. It is not, however, too much to demand that a certain number of cases belonging to each "type" should furnish this conclusive proof of their enteric nature. The literature of enteric fever is remarkably scanty in examples of "atypical" enteric fever proved by hæmoculture. Further evidence is required on this question of enteric bacillæmia without the clinical signs of active enteric fever, and vice versa.

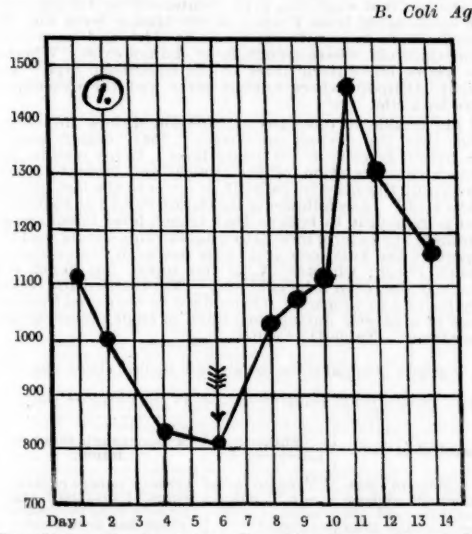
Anyone who has succeeded in growing enteric bacilli from the blood of a case like Case 1, 2, or 3 of Table II., for example, especially if the observation has been repeated in two or more of the pyrexial attacks, is in possession of data of great scientific value which he should publish for the benefit of clinical medicine.

(2) *Agglutination.*—Erroneous interpretation of agglutination results is undoubtedly the most fruitful source of so-called "atypical" enteric. Careful analysis of these results is required in order to expose numerous fallacies. Even in uninoculated subjects a positive Widal is open to the fallacy that the patient may, at some previous time, have suffered from enteric, which would explain the presence of agglutinin in his blood. The fallacies, however, are enormously increased in military practice by inoculation, which produces agglutinins in the blood indistinguishable qualitatively and quantitatively from those produced by disease.

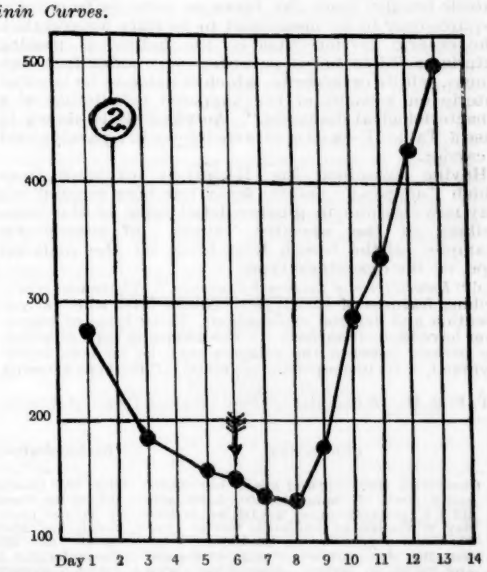
The behaviour of these "inoculation agglutinins" in health and disease has been the subject of considerable investigation and much controversy. The Oxford School of Pathology has elaborated an agglutination technique for the measurement, with a semblance of mathematical accuracy, of the agglutinating power of the blood in terms of an arbitrary unit termed the "standard agglutinin unit." This school claims that when this particular technique is applied in a series of tests of a patient's blood serum a fluctuation of as little as 100 to 200 per cent. in the agglutinin content of the blood, taking place regularly and reaching its maximum between the sixteenth and twenty-fourth day of the illness, justifies a diagnosis of enteric fever (typhoid, paratyphoid A, or paratyphoid B, according to the agglutinin affected). In short, this fluctuation of an inoculation agglutinin is claimed to be a specific phenomenon, like the original production of agglutinin in an uninoculated individual. The position of authority of its authors, the insistence of their claim, and the fictitious appearance of mathematical accuracy conveyed in results expressed in terms of "standard agglutinin units," and often given to the first decimal part of a unit, led many workers, especially in France and England, to accept this interpretation of the agglutinin response. It is essential to the purpose of this paper to show that this claim is wholly unsubstantiated by the published evidence.

As long ago as 1909 the Oxford pathologists, in a most important paper in the *Journal of Pathology and Bacteriology* on the production of immune substances, showed that *B. coli* agglutinins produced in rabbits by inoculations with cultures of *B. coli* could be stimulated by injections of staphylococci or streptococci or *Bacillus Friedländer*. This paper has not received the attention it deserves, either from its authors in their subsequent communications or from other writers on the subject. Curves 1 and 2, which are constructed from figures and facts contained in the article referred to, speak for themselves, and the following extract from the text explains in a clear and concise manner the meaning of these phenomena as they appeared to the authors at that time:—

B. Coli Agglutinin Curves.



The rabbit received an intraperitoneal inoculation of 1 c.cm. dead 24-hour old bouillon culture of *B. coli communis*. Its serum reached its highest agglutinating power of 1875 units on the seventh day after inoculation. Day 1 on the curve is the thirteenth day after inoculation. On Day 6 (the eleventh day after the agglutinin maximum) an inoculation of 1 c.cm. dead 24-hour old bouillon culture of *Staphylococcus pyogenes aureus* was given intraperitoneally (indicated by the arrow). A marked rise in coli agglutinins followed this inoculation. The chart is constructed from figures supplied by Dreyer and Walker in the Journal of Pathology and Bacteriology, 1909. Agglutinins expressed in arbitrary units.



Inoculation of dead *B. coli communis*, as in Curve 1: highest agglutinating power, 627 units, on seventh day after inoculation. Day 1 on the curve is the twelfth day after inoculation. On Day 6 (the fifth day after the agglutinin maximum) an inoculation of 3 c.cm. dead staphylococcus culture was given intraperitoneally (indicated by arrow). A rise in agglutinins is seen from Day 9 onwards. The chart is constructed from figures supplied by Dreyer and Walker in the Journal of Pathology and Bacteriology, 1909. Agglutinins expressed in arbitrary units.

"It at once appeared that such an inoculation as has just been described if carried out before too long an interval has elapsed since the original immunisation—that is to say, before the agglutinins of the serum had fallen to their original normal level—caused a marked rise in the agglutinating action of the serum on the *Bacillus coli*.

This rise in the production of specific agglutinins under the action of a non-specific stimulus may be proceeded by a fall which usually occurs upon a second inoculation of the original organism; and it may reach a height as great or even greater than the previous maximum of the animal concerned. These features are exhibited in Curve 1.

Thus we find that the injection of various heterologous bacteria increase the production of specific agglutinins in an immunised

animal, so long as its retains any measurable degree of acquired immunity.

The inoculations are not in any sense specific for the particular immunity in question. The increase which occurs is therefore due to a reaction of a non-specific character affecting cells and tissues which are already engaged in the formation of specific agglutinins, and causing them to take on increased activity."

As with *Bacillus coli* inoculation in a rabbit, so it is with enteric inoculation agglutinins in the human subject. Infections which have no relationship to enteric sometimes (to use the words of the above authors) increase the production of specific agglutinins in the immunised subject, so long as he retains any measurable degree of acquired immunity. ..... The increase which occurs is therefore of a general non-specific character affecting cells and tissues which are already engaged in the formation of specific agglutinins, and causing them to take on increased activity.

Case 1 of Table II. is an example of malaria stimulating the typhoid inoculation agglutinin; and Case 2 is a case of trench fever stimulating the para. B agglutinin. To label these cases typhoid and paratyphoid B respectively, on the agglutinin response alone, in the face of the clinical facts supplied, is, in my opinion, wholly unjustifiable. The agglutinin fluctuation may be a piece of evidence of great weight in the diagnostic balance, but it is not in itself proof of enteric infection. This failure to distinguish between evidence and proof has been a source of confusion for which the Oxford pathologists are largely responsible. In a previous article on this subject I concluded with the opinion that the general adoption of the Oxford technique together with Oxford teaching as to the significance of an agglutinin fluctuation would be disastrous to enteric statistics in the army. I have found no reason to alter that opinion.

(3) *Culture of excreta.*—The fallacy of attaching an absolute diagnostic significance to the recovery of an enteric bacillus from the fæces or urine (or from both) requires only to be mentioned to be fully appreciated. The enteric carrier—that is, the individual passing enteric bacilli in fæces or urine—may suffer from any illness, febrile or afebrile, which is liable to be labelled enteric on account of the supposed infallibility of a "bacteriological diagnosis." An example is shown in Case 3, Table II.—a case of trench fever in a paratyphoid B carrier.

Having examined the laboratory evidence from which "atypical" enteric fever has been created, we may now consider in greater detail some of the more striking of the so-called "types" of enteric—for example, (*a*) the trench fever type, (*b*) the malarial type, (*c*) the dysenteric type.

(*a*) "*Enteric fever of the trench fever type.*"—There are certain striking features of this type of enteric fever which arrest attention and demand explanation. Three types of trench fever have been described: (1) The relapsing type in which the periods between the relapses may be (*a*) completely apyrexial, or (*b*) incompletely apyrexial; (2) the type showing one pyrexial wave of short duration; (3) the type showing a longer pyrexia of remittent type ending by lysis.

It is clear that, so far as the pyrexia goes, there is a good deal in common between the second and third types of trench fever and enteric fever. Marris[1] has compared and contrasted trench fever and the enteric fevers, showing the points of contrast to be more numerous and more striking than the points of resemblance. For the present, however, the only type of trench fever which need be considered is type 1. It is the most characteristic type of this disease, and it is the belief—in my opinion, the mistaken belief—that its clinical characteristics can be produced by enteric infection that has given rise to "enteric fever of the trench type."

The first feature of this "type" of enteric which demands explanation is the periodicity of the pyrexia. In Case 3 of Table II. the pyrexia apparently showed a perfect five-day periodicity—a phenomenon hitherto unknown in enteric. In Case 2 the periodicity was not perfectly regular, but showed a tendency towards a lengthening of the interval between the acmes of successive relapses—namely, three, four, and five days between second and third, third and fourth, and fourth and fifth relapses respectively. This "postponement of the acme" is one of the most striking clinical features of the relapsing type of trench fever, but no such phenomenon has ever previously been associated with enteric infection.

A feature of great interest to the epidemiologist is the close coincidence in point of time and place between "trench fever" and "enteric fever of the trench fever type." This fact attracted the attention of Dr. C. H. Miller, the Goulstonian lecturer on the paratyphoid infections (THE LANCET, June 2nd, 1917), who was at a loss to explain why no case of this type came under his notice in the early months of the war—that is, before trench fever had spread amongst the troops in the trenches. He was equally puzzled by the fact that when this type of enteric fever did appear all the cases came from France (where trench fever and the enterics were known to exist side by side), and none came from Gallipoli, where trench fever did not exist. Whereas the source of "enteric fever of the dysenteric type" was chiefly Gallipoli, where enteric fever and the dysenteries were both rife.

I am unable to offer any explanation of these difficulties other than the obvious one—namely, that "enteric fever of the trench fever type" is trench fever. In my opinion, the correct interpretation of the clinical and laboratory data concerning the cases in Table II. is given in the last column of the table. Any follower of the Oxford School of Pathology who is reluctant to believe that trench fever infection can stimulate the enteric inoculation agglutinins should read the Report of the American Red Cross Research Committee on Trench Fever; Chapter IX. of this report (pp. 80-142) will convince him, even if he is biased. Nor is there any reason why *Bacillus paratyphosus B* should not be recovered from the fæces of a carrier during an attack of trench fever, or any other fever. (Table II., Case 3.)

[1] Marris: Journal of the Royal Army Medical Corps, 1919.

TABLE II.—*Examples of New Clinical Types of Enteric Fever Created from Bacteriological or Serological Data.*

Case	Clinical data.	Bacteriological and serological data.	Author's interpretation.	A more simple interpretation.
1*	Onset with shivering and headache. Three smart rises of temp. to 105°, 103·5°, and 102·5° F. respectively on the 1st, 3rd, and 5th day of the illness simulating tertian ague. No malaria parasites in the blood. From the 5th day onwards, temp. subnormal and rising to normal. Patient inoculated against typhoid. (T. vaccine.)	The T. inoculation-agglutinin (examined by Dreyer's method), showed a 350 per cent. fluctuation, with its maximum about the 17th day from onset of illness—"an extremely characteristic typhoid agglutinin reaction of moderate grade." (LANCET, April 14th, 1917, p. 570.)	"Typhoid fever in a T. inoculated individual."	A case of malaria producing stimulation of the T. agglutinin forming mechanism, which has been rendered sensitive to heterologous stimulation by the original specific stimulus of anti-typhoid inoculation.
2†	General appearance toxic. Headache very slight after onset. Pains not marked. Vomiting: 1st day. Fever: showed relapses on 5th, 8th, 12th, 17th days. Pulse: relatively higher than temp. Tongue: dirty. Spleen: not enlarged. Spots: not present. Patient was T. A, B inoculated.	The agglutinin content of the blood was estimated by Dreyer's method on four occasions. Day. T. A. B. | Day. T. A. B. 8 ... 40 ... 30 ... 5 | 16 ... 33 ... 25 ... 32 12 ... 33 ... 30 ... 18 | 20 ... 54 ... 22 ... 44 The agglutinins are stated in terms of Dreyer's standard agglutinin units, and show a rise of 800 per cent. in the B agglutinin between the 8th and 20th days of illness.	"Paratyphoid B fever."	Case of "trench fever" producing fluctuation of the B inoculation agglutinin.
3‡	W.S. admitted as "trench fever," May 24th, 1916. In hospital since April 17th. Has fever every five days. Aching shins very bad at night.	*Bacillus paratyphosus B* isolated from the stools.	"Paratyphoid B fever of the trench fever type."	Trench fever occurring in a paratyphoid B carrier.

* THE LANCET, Nov. 25th, 1916, p. 898, Case 4. † Brit. Med. Jour., March 9th, 1918, p. 296, Case 14.
‡ THE LANCET, June 2nd, 1917, p. 830, Case 13.

Note.—The object of this table is to indicate that, under circumstances where a "bacteriological diagnosis" is regarded as necessarily a correct diagnosis, the variety of clinical types which the enteric fevers may assume in the inoculated is limited only by the number and variety of non-enteric diseases which may stimulate enteric inoculation agglutinins or which may occur in "enteric carriers."

(*b*) "*Enteric fever of the malarial type.*"—The same argument, with appropriate modifications, applies to "enteric fever of the malarial type." It is quite commonly believed that enteric infections may assume clinical characters which render them clinically indistinguishable from cases of malaria. This is especially so in malarial countries. Eighteen months' clinical and pathological investigation of this question amongst the malaria-sodden troops in East Africa has failed to produce evidence in support of this view, and has convinced me that it is erroneous.

It is true that malaria, especially subtertian malaria, occasionally presents a remarkably clever clinical imitation of enteric fever; but so far as I have been able to ascertain enteric fever never imitates classical malaria. Even when it sets off, as it occasionally does in the subjects of malarial infection with tertian periodicity and rigors, the imitation sooner or later breaks down and the enteric character of the temperature asserts itself. Tertian (or quartan) periodicity, the most striking clinical feature of classical malaria, has the same significance to-day that it had when described by Hippocrates some five centuries B.C. It means malaria, and it is not produced by any other disease. The fluctuation of 350 per cent. in the T-inoculation agglutinin in Case 1 of Table II. is a very interesting laboratory observation, but to accept it as proof that the illness described in column 2 is typhoid fever would be to shake the very foundations of clinical medicine. A simple interpretation of the facts is furnished in column 5 of Table II. For evidence that malaria may produce fluctuations of enteric inoculation agglutinins when examined by the Oxford method the reader is referred to p. 28 of Marris's "Report upon the Use of Atropine as a Diagnostic Agent in Typhoid Infections" (Medical Research Committee, Special Report Series, No. 9). There he will find facts relating to three cases which were serologically diagnosed enteric. A negative atropine report led to the diagnosis being altered to malaria to harmonise with the clinical picture and the presence of malaria parasites in blood-films. In Case 1, Table II., the diagnosis might well be altered to harmonise with the clinical picture in spite of failure to find malaria parasites. But one can readily understand the tenacity with which its author clings to this diagnosis of typhoid fever (THE LANCET, April 14th, 1917, p. 570), for immediately he admits the error of diagnosis in this case, his experience is brought into line with that of other workers on this subject, and his extravagant claims for agglutination are rendered invalid.

(*c*) "*Enteric fever of the dysenteric type.*"—As the Goulstonian lecturer on the paratyphoid infections pointed out, this type of enteric fever came chiefly from Gallipoli, the greatest hotbed of intestinal infections, both enteric and dysenteric, which the war produced. Such were the conditions on the Peninsula in the summer of 1915 that practically every man suffered from some intestinal infection; the commonest of these were the dysenteries, chiefly bacillary but also amœbic, and the paratyphoid infections. Under such circumstances it is hardly surprising that a great number of the men suffered from both paratyphoid and dysentery. A considerable number of the paratyphoid patients arriving in Malta from Gallipoli during the summer and autumn of 1915 gave a history of dysenteric symptoms either before, or at the onset of, or during the course of their paratyphoid illness. In a number of cases the dysentery developed while they were in hospital in Malta suffering from typical paratyphoid infections.

Evidence of a "dysenteric type of enteric fever" from such a mixed source cannot be allowed. The fallacies are too obvious. In some of the cases giving a clinical history of dysentery and paratyphoid laboratory evidence of mixed infection was obtained—paratyphoid with bacillary dysentery, or paratyphoid with amœbic infection.

In cases in which no laboratory evidence is obtained, the possibility of dysenteric infection cannot easily be excluded. It is a well-known fact that the bacteriological investigation of bacillary dysentery is very largely "negative" unless undertaken *early* in the acute illness.

Although I have frequently seen the clinical features of both enteric and dysentery associated together in one patient I do not believe that that is proof or even good evidence that there is such a thing as "enteric fever of the dysenteric type."

Summary and Conclusions.

The question under discussion is not one of merely academic interest. It is of the utmost practical importance. Correct enteric statistics in the army, which are dependent on correct methods of diagnosis, are essential to a correct estimate of the value of anti-enteric inoculation. The inclusion of a large number of cases of trench fever, malaria, dysentery, and other diseases as "enteric" will raise the apparent incidence of enteric amongst the inoculated and lower its fatality. The influence of anti-enteric inoculation is not to modify enteric fever, but to prevent it.

My summary is as follows:—

1. Enteric fever (typhoid and paratyphoid), far from being the "protean disease" it is usually represented to be, is remarkably constant in its clinical manifestations and true to type. This applies to the inoculated and uninoculated.

2. Enteric fever, whether in the inoculated or uninoculated, may appear clinically in every degree of intensity from extreme mildness to overwhelming severity.

3. "Atypical" enteric fever is a myth, in the creation of which two chief factors have operated—viz., (*a*) Small-pox occurring in the vaccinated is so modified as to be frequently diagnosed as the milder disease, chicken-pox. While that may be good reason for expecting that enteric fever in the inoculated should be similarly modified in *severity*, it does not support a belief that it is so modified in *character* as to resemble such divers diseases as malaria, trench fever, and dysentery in their classical forms. (*b*) A far more important factor has been a lack of coöperation between workers in the wards and in the laboratory, and failure to coördinate their findings. When clinical and laboratory findings have conflicted the latter have prevailed, because laboratory investigation of disease has been generally regarded for some reason to be more "scientific" than bedside observation. The truth, however, is gaining ground that science in medicine is not confined to the laboratory. The bedside has its victories no less than the bench. The flimsiest piece of evidence from the laboratory has often been accepted as proof of enteric infection in the face of bedside evidence which renders such a diagnosis untenable (e.g., the cases in Table II.). The physician has thus allowed himself to be completely dominated in the matter of diagnosis by the pathologist. Diagnosis is the function of the physician; the pathologist's duty is to supply certain of the data for diagnosis.

4. Anti-enteric inoculation is the gift of practical bacteriology to preventive medicine, and is probably the greatest victory known to preventive medicine since Jenner's discovery of vaccination against small-pox. It would be a strange irony if the full fruits of this victory were lost amidst the clinical chaos resulting from the undue domination of bacteriology (and especially academic bacteriology) over clinical medicine.

THE HEREDITARY FACTOR IN TUBERCULOSIS.

BY KARL PEARSON, F.R.S.,
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THERE still appears to be a good deal of misunderstanding as to what those of us who believe there is definite statistical evidence for the hereditary factor in tuberculosis really mean by the latter. We do not suppose tuberculosis to be handed down from parent to offspring any more than we should suggest that the wearing of spectacles is hereditary. We merely suppose that certain constitutions are more and certain other constitutions less resistant to, say, pulmonary tuberculosis. It is immaterial whether the tuberculous diathesis be looked upon as an inheritance of susceptibility or an inheritance of resistance, for both are but grades in the scale of immunity peculiar to the individual. In a community wherein tuberculosis has been prevalent for many centuries we should anticipate that natural selection would steadily intensify the immunity by eliminating those with less resistance; the higher grades of resistance survive and are transmitted by heredity. In a community wherein the tubercle bacillus has not been introduced there will have been no selection to raise the average degree of immunity; there will, however, be many grades of susceptibility, and these will be inherited, whether or no they have been put to the test of an infected environment.

These remarks are called forth by a recent paper[1] by

[1] Tuberculosis in Primitive Tribes, and its bearing on the Tuberculosis of Civilised Communities, International Journal of Public Health, September, 1920, vol. i., pp. 137-171.

Professor S. Lyle Cummins. Talking about persons in communities where tuberculosis is rare, he writes:—

"Such persons might be expected upon this theory [i.e., inheritance of the tuberculosis diathesis] to possess a high degree of resistance to infection, since an inherited susceptibility must necessarily be rare" (p. 137).

On the contrary, I should expect a lower average degree of resistance, because the low degrees of resistance have not been weeded out by selection. Again:

"If a tuberculosis [? tuberculous] diathesis play a part, cases should be more benign among races free from any possibility of hereditary disposition, but the facts appear to be far otherwise" (p. 138).

Why more benign? There will be more persons with high degrees of susceptibility and these are more likely to suffer severely. Again:

"It is clear, then, that amongst the members of communities of the kind under discussion [i.e., those in which tuberculosis is unknown] there can be no trace of hereditary liability to tuberculosis" (p. 144).

In wild races of man there can be no trace of hereditary liability to the use of spectacles, but there may well be many grades of hereditary myopia.

Finally, on p. 150, Professor Cummins asserts that in races isolated from the rest of mankind and untuberculised all possibility of the existence of any "diathesis" or "tendency" transmitted from a tuberculous ancestry is precluded.

Clearly, as there never existed a tuberculous ancestry this is true; however, as it does not need a tuberculous ancestry to hand down the diathesis, but only an ancestry itself possessing the diathesis, the inference Professor Cummins draws from his discussion—that there can be no trace of hereditary liability where there is no tuberculous ancestry—is erroneous.

Facts Elucidated at the Galton Laboratory.

The following facts were gathered from the data investigated in the Galton Laboratory:—

(i.) That there exists a correlation between parent and offspring in the matter of tuberculosis which is of the same intensity as the hereditary correlation between admittedly inherited characters in man.

(ii.) That the correlation between husband and wife in the matter of tuberculosis is far less intense than that between parent and offspring, and is of the order of the correlation between husband and wife which we associate with the assortative mating which occurs for physical and mental characters in man.

(iii.) That the earlier-born children appear to have a greater incidence of tuberculosis than later-born children.

These facts Professor Cummins endeavours to explain on the basis of (*a*) infection and (*b*) acquired resistance. He writes (p. 155):—

"On a theory of 'infection and resistance' it would follow that children, not having had time to develop fully their resistance, would be more liable to infection than adults, since the children of tuberculous parents would be exposed to infection to an unusual degree. Such a theory would explain why the correlation between tuberculosis in children and parents is closer than between husband and wife, because men and women at the age of marriage would have developed resistance. It would also explain why the elder children are more often attacked than the younger, since they tend to be born at a time when the parents still belong to the dangerous age groups, the period of life when 'open tuberculosis' is more frequent."

Now the argument in the last few lines is not ad hoc, because it assumes that all tuberculous individuals have tuberculous parents, while almost the contrary is the fact, the bulk of the tuberculous having non-tuberculous parents.[2] If we confine our attention entirely to the latter group, there is still the heavier incidence among the early born. It is not a result of the presence or absence of tuberculous parents.

Age and Immunity.

Again, the average age at onset of the sanatorium cases dealt with in the Galton Laboratory was: Men 29·9 years, women 25·9 years, for England, and men 26·7 years, women 26·1 years, for America. If these persons had been infected by their parents at the time of "onset," those parents must have been from 45 to 50 years on the average and so not at the time of life when they belonged to "the dangerous age-groups." If, on the other hand, the parents infected their offspring as children, they must have provided the immunity, the "puerile phthisis" which preserves the mass of a civilised community from phthisis—the immunity by infection of which Professor Cummins writes—and the onset at 25 or 30 was not due to the infection by parents, but to the breakdown of the immunity. Why does the immunity merely of certain members break down, not of all? It can only be because there is a differentiated environment or a differentiated constitution. The child of an infected parent might be supposed, on Professor Cummins's hypothesis, to have acquired a more intense power of resistance by the time it reaches manhood from its differentiated environment; the differentiated constitution would give it a less immunity. The age at marriage of most husbands and wives is precisely the age at which sanatorium cases show that the immunity acquired during childhood breaks down and we find the onset of adult phthisis. It does not seem to me, therefore, that we can assert that the high hereditary correlation of parent and child is due to infection at a susceptible age, while the relatively low correlation of husband and wife is due to acquired immunity. For the average age of onset we are dealing with is that of the adult. The only way to account for the matter on Professor Cummins's lines would be to suppose a latency of the infection for from 25 to 30 years, but this is hardly compatible with the acquired resistance he postulates. He does not seem to have realised that the inheritance we were discussing in our data was one in which the average age at onset was from 25 to 30 years. I may add that while elder-born men have an onset about two years *later* than younger-born, there is no significant difference between elder- and younger-born women in age of onset.

"Inheritance" and "Acquisition" of Counter-disposition.

There is one other point to which it is needful to refer. Professor Cummins writes:—

"Pearson clearly recognises that the hereditary theory requires considerable manipulation if it is to cover all the facts" (p. 155).

And again, speaking of the postulate of "acquired resistance" and its power of accounting for the facts above referred to, he continues:—

"It would explain why members of the artisan community still continue, in the majority of cases, to escape clinical tuberculosis. It would, moreover, explain all these things without the necessity of dragging in such difficulties as 'direct action of the environment on gametic cells,' 'assortative mating' as between diseased stocks, and 'the inheritance of what amounts to a counter-disposition.'"

Putting aside the great difficulties which arise from the postulate as to the fine balance between the dose which renders immune and the dose which infects, difficulties which I have endeavoured to point out above, I think Professor Cummins is not justified in taking phrases out of their surrounding context and using them in the manner he does with a more or less covert charge of manipulating theory. In 1907 I only suspected the handicapping of the earlier born. We now know that it extends to a number of other pathological conditions besides tuberculosis,[3] and we may guess at, but do not know, its mechanism. My words were as follows[4]:—

"The conclusion therefore must be that in certain cases at least of constitutional defects which are inherited, the earlier members of the family are more likely to suffer than the later. It is difficult to reconcile this result with any simple Mendelian theory; it would seem necessary to combine such a theory with what amounts in result to a selective action on the gametes. I have already pointed out that such action would not only modify the Mendelian proportions, but also the parental correlations. Further, this selective action would vary with the environment, i.e., the changing constitution of the parents. Such direct action of the environment on the gametic cells is one which it would from the standpoint of national eugenics be of the greatest importance to study."

Now it will be quite clear that this paragraph is a criticism of Mendelism which supposes a definite gametic constitution for either parent, and not one which is modified by growth changes in the parental constitution. It is difficult to see how the criticism of a theory which I do not profess can be fairly described as a "considerable manipulation" of "the hereditary theory."

That the bulk of artisans should resist the prevalent infection in a large number of cases owing to their varying degree of innate or inborn resistance does not appear to me a greater difficulty than the postulate that they achieve the same result by an "acquired resistance." The criterion between an inheritance and

[2] Tuberculous parents have more tuberculous offspring than non-tuberculous parents, yet the latter being more frequent provide the bulk of the tuberculous.

[3] The Handicapping of the First-born, Galton Laboratory Lecture Series, Cambridge University Press.

[4] A First Study of the Statistics of Pulmonary Tuberculosis, Cambridge University Press.

an acquisition of a counter-disposition will lie in hard statistical reduction of data and not in mere verbal statement as to the small "necessity of dragging in such difficulties." From the standpoint of a real solution of the problem it is of interest to note that the late Dr. Charles Goring,[5] investigating tuberculosis in the lower social grades, found the parental correlation maintained, but the marital correlation sensibly zero. It is possible to understand the variation of assortative mating with social class—i.e., with the grade of intellectual taste—but it is hardly possible to believe in a like variation in infectivity.

However, my main point is that the theory of an inherited resistance is not affected in any way by the well-known fact that isolated groups of mankind have little resistance to tuberculosis; it is rather what we should expect on the theory of evolution by natural selection with the transmission of hereditary characters. Professor Cummins appears to hold that a tuberculous ancestry is needful for the inheritance of a tuberculous diathesis, as a syphilitic ancestry is needful for the "hereditary" transmission of syphilis. But the origin of the latter is not "heredity" in our modern sense at all, and the sooner the term is discarded the clearer will be medical and popular ideas on the topic of inheritance.

ON THE TREATMENT OF ORIENTAL SORE BY X RAYS.

BY F. C. ORMEROD, M.D., CH.B. MANCH.

WHILST stationed in Mesopotamia during the years 1916–19 I had the opportunity of observing a large number of cases of oriental sore. The treatment of this condition appeared to present considerable difficulty, and a number of methods then in use were meeting with but indifferent success. Of these methods, excision, curettage, application of carbonic oxide snow, and various antiseptics were not satisfactory in more than limited types of sore. Excision of septic sores had been followed by septicæmia or prolonged suppuration, though early cases often healed well. Curettage had to be very drastic and necessitated an anæsthetic and admission to hospital. Carbonic oxide snow and antiseptics did not act deeply enough to destroy the Leishman-Donovan bodies and therefore could not eradicate the disease. Antimony tartrate ointment had good effects on shallow, mildly infected ulcers, but not on chronic or badly infected ones. Upon the non-ulcerated oriental sore it had no effect. Intravenous infusion of antimony tartrate is efficacious, but appears to be a drastic line of treatment for a localised skin lesion. It also required detention in hospital of every case thus treated. Ionic medication resulted in many good cures, but was not universally successful and had but little action on non-ulcerated sores.

The objection to most of these methods of treatment was that their action did not penetrate into the deep-lying tissue under the edges of the ulcers, or in the centres of the non-ulcerated sores where the Leishman-Donovan bodies are situate. A form of treatment which would reach these deep areas and would encompass the destruction of the parasite was required. X rays at once fulfil these requirements, readily penetrate skin and inflammatory tissue, and, as will be shown, destroy the Leishman-Donovan body. During 1918–19 I treated a large number of oriental sores by applying X rays and observed satisfactory progress in most and cure in a large percentage of cases.

Apparatus and Method.

The apparatus used was one supplied for an Indian station hospital. A coil giving a 16-inch spark, a mercury jet interrupter, and a Lodge valve tube were employed. The current was drawn from the main of the Baghdad power station. Macalaster-Wiggin tubes, with 6-inch bulbs, were found to be most satisfactory and used accordingly. The rays were directed on to the affected area through a lead glass cylinder, an aluminium filter 3 mm. in thickness being interposed. Surrounding healthy skin was protected by appropriately-shaped pieces of leaded rubber. The Sabouraud unit was used as the measure of dosage and was estimated by exposing barium platino-cyanide pastilles.

The current of the secondary circuit was never allowed above 1·25 milliampères and was kept as near as possible to 1·0 milliampère. The vacuum aimed at was one corresponding to a hardness of 8–9 on the Wehnelt scale. The high atmospheric temperature made this difficult, but by employing an electric table-fan and frequently changing the tubes it was accomplished. With the apparatus described a Sabouraud unit required 12 minutes' exposure when the current was 1·0 milliampère. It was found that the administration of one Sabouraud unit was sufficient in most cases to destroy the Leishman-Donovan body, and in a series of 136 sores cured by this method the average dose was 0·93 unit. The following actual doses were used: 1 Sabouraud unit, 78 cases; less than 1 Sabouraud unit, 33 cases; more than 1 Sabouraud unit, 25 cases.

The ideal is to administer the full dose in one sitting, but on account of the heating of the tube subsequent to the high temperature of the surrounding atmosphere, two or three sittings of one-half or one-third units were employed, usually at intervals of one week. A whole Sabouraud unit should be administered and in only about 20 per cent. of cases or less is any additional exposure required. In septic, ulcerated sores treatment should be applied to render them as clean as possible before commencing radiation and thereafter a stimulating lotion, such as that of zinc sulphate, is employed. The non-ulcerated form required no extra treatment except perhaps a dry dressing as protection from injury.

Results.

The result of such treatment of 130 patients with 237 sores is shown in the accompanying table:—

Result.	Patients.	Sores.
1. Transferred overseas; treatment unfinished...	8	15
2. Admitted to hospital; result unknown	3	7
3. Not progressing well; ceased to attend	4	11
4. Progressing well; ceased to attend; probably healed	31	68
5. Completely cured	84	136

Demobilisation was responsible for most of the cases in line 1, and probably for many in line 4. One of the four failures was a Baghdad Jewess with sores of five years' duration; another was an elderly officer who did not respond to treatment. The remaining two took no care of their sores and gradually got worse. Three cases were referred to me after undergoing long courses of ionisation without success. In none of these did X rays cause any marked improvement. One was admitted to hospital and two transferred overseas. Of the 136 sores cured the average time from commencement of treatment to complete cure was 27 days. The periods varied from ten days to two months, the latter time being taken in a number of chronic sores of from one to two years' standing. Ulcers and sores of a few months usually healed in 10–20 days.

Smears were made from scrapings of ulcers and from aspirations of non-ulcerated sores. Leishman-Donovan bodies were found in about 75 per cent. of cases examined, the parasite being extremely difficult to demonstrate in sores of considerable age. Smears made during the course of the treatment exhibited rapid death and disappearance of the parasite in 7–10 days after administration of a full Sabouraud unit.

Conclusions.

The advantages of X ray therapy can be enumerated as follows: 1. The rays act directly on the causative organism. 2. They are able to penetrate unbroken skin or masses of diseased tissue, thereby being efficient in ulcerated and non-ulcerated sores alike. 3. Cases can be treated as out-patients and can very often continue their occupation. 4. There is no risk of constitutional disturbance, the danger of dermatitis or necrosis being absent with the doses utilised. 5. The treatment is short, painless, and easy to administer. 6. Sores in awkward positions, such as the inner canthus of the eye, lips, and alæ nasi (actual cases), can be very readily dealt with. 7. The scars left after healing are supple and of such colour after about six months as to be barely noticeable. This is important, as the sores invariably occur on exposed parts, such as the face and hands.

The results were very satisfactory, and it is possible that X ray therapy may be of value in the treatment of the allied forms of leishmaniasis—espundia and kala-azar—as X rays have an undoubted destructive effect on the Leishman-Donovan body.

[5] On the Inheritance of the Diatheses of Phthisis and Insanity, Studies in National Deterioration, Cambridge University Press.

CŒLIAC INFANTILISM:

ITS FAT-DIGESTION AND TREATMENT BY BILE-SALTS.

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CŒLIAC disease shows three cardinal features: enlargement of the abdomen without signs of organic disease, persistent or relapsing diarrhœa with pale fatty stools, and retardation of physical growth and development. Of this triad of symptoms the last two stand related as cause and effect; and where the fat wastage has been sufficient to produce conspicuous stunting a type of true infantilism is seen. To this type it would appear that a variety of names has been given, for it seems more than probable that some cases of infantilism spoken of as pancreatic, intestinal, hepatic, and biliary are really all the same condition—namely, infantilism resulting from cœliac disease. "Cœliac infantilism," the term used in this paper, is free of objection, for it commits us to no opinion on the cause of cœliac disease, while clearly denoting a type of infantilism in which the impairment of development is due to that malady.

In the present paper three cases of cœliac infantilism are studied from the points of view only of their fat-digestion and the clinical and analytical alterations produced by the administration of bile-salts. The investigations are described in the order in which they were undertaken, and the results briefly discussed.

Very few fæcal analyses have been made in cœliac cases,[1] and although bile-preparations have not been left altogether untried, their administration has not been accompanied by analyses. Investigations on these lines would, I thought, give some evidence of the possible value of bile in promoting fat-absorption in cœliac disease, and might even throw some light upon the origin of the excessive fat wastage.

All three cases had been under my observation for long periods before they were admitted to Paddington Green Children's Hospital for these investigations. In the first two cases it was impossible, owing to war conditions, to follow any elaborate scheme of fat intake and output. All that could be done was to put each child on a constant diet and analyse specimens of the fæces before and during the administration of bile-salts. The results, so far as they went, were encouraging. Obviously, however, this method fails to overcome the difficulty of the possible variation of the fat-content of the stools from day to day even on a constant diet. In the third case it was possible to avoid this source of fallacy. The child was put on various diets containing known quantities of fat and specimens from a three-days' collection of fæces were analysed. These procedures were repeated during the administration of bile-salts. Unfortunately, the only case available at this time was in a very quiescent stage, the stools being as nearly normal as is ever the case in this patient.

All tests and analyses were carried out by Dr. H. Perkins unless otherwise stated.

Administration of Bile-salts.

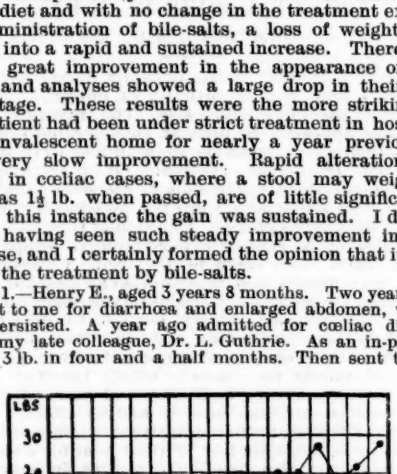
In these investigations I used the bile-salts themselves to make the experiment as clear-cut as possible. Perhaps better results might have been obtained by giving desiccated bile, and when preparations of pig-bile again become available I hope to try them. No harmful effects were observed from the bile-salts even after periods of many weeks. Their presence could not be recognised with certainty in the urine, so that probably they are largely excreted by the bowel. They tended to diminish rather than increase the diarrhœa, as would be likely should they reduce the percentage of fat in the stools.

Bile preparations are usually given in keratin-coated pills or capsules of hardened gelatin. This increases the difficulty of administration where small children are concerned, and the question of the necessity of such protective coverings arose. Professor H. E. Roaf kindly advised me in this matter. By experiment he found that the property of altering surface-tension was not in the least impaired by previous incubation for 18 hours with acid, acid and pepsin, alkali, or alkali and trypsin. Thus treated a 1 per cent. solution of bile-salts remained as active as a freshly prepared solution of equal strength. I therefore gave the bile-salts in water with alkali and a flavouring agent. The taste of the mixture is very bitter. The dose employed was 1 gr. each of sodium glycocholate and sodium taurocholate, given three times a day with the principal meals. In Case 2 double doses were given for a time.

Cases.

The first case on which the treatment was tried proved conspicuously successful. With no alteration in the diet and with no change in the treatment except the administration of bile-salts, a loss of weight was turned into a rapid and sustained increase. There was also a great improvement in the appearance of the stools, and analyses showed a large drop in their fat-percentage. These results were the more striking as the patient had been under strict treatment in hospital and convalescent home for nearly a year previously, with very slow improvement. Rapid alterations in weight in cœliac cases, where a stool may weigh as much as 1½ lb. when passed, are of little significance, but in this instance the gain was sustained. I do not recall having seen such steady improvement in any like case, and I certainly formed the opinion that it was due to the treatment by bile-salts.

CASE 1.—Henry E., aged 3 years 8 months. Two years ago brought to me for diarrhœa and enlarged abdomen, which have persisted. A year ago admitted for cœliac disease under my late colleague, Dr. L. Guthrie. As an in-patient gained 3 lb. in four and a half months. Then sent to our convalescent home, where he gained 3 lb. in six months. At home for six weeks, then again admitted to hospital, coming under my care. Weight 23 lb. 6 oz. (normal for age, about 36 lb.). Height 32¾ in. (normal about 36 in.). Very pale. Abdomen large. Stools (2–3 daily) large (weighing up to 1½ lb.), pale, unformed, offensive. Loewi's pupil test negative; urinary diastase 10.



Weekly weights (from admission to discharge) in Case 1 on constant diet.

Course.—Given a constant diet containing food ostensibly free from fat, together with milk 1½ pints, dripping 1 oz., and bread 6 oz. daily. This roughly represents 59 g. of fat daily. During the first week a loss of 6 oz. in weight and no

[1] Previous papers on cœliac disease are not easy to trace. The subject-index of the Index Medicus (1888–1918) includes neither Cœliac Disease nor Morbus Cœliacus.

obvious improvement in the appearance of the stools. On the eighth day on the diet a specimen of fæces found to contain 57·14 per cent. of fat. This analysis was kindly done for me by Professor Roaf. On the same day bile-salts were started and given continuously thereafter. No change in the diet. In one week of this treatment he gained 1 lb. 10 oz.; in two weeks 2 lb. 12 oz. Stools darker and firmer but still variable. A specimen analysed (Webster) at the end of two weeks' treatment on bile-salts contained, in the dried state, 26·7 per cent. of fat (neutral fat, 12·3 per cent.; fatty acid, 27 per cent.; soap, 60·7 per cent. of total fæcal fat). In seven weeks a gain of over 4 lb.; dripping in the diet replaced by syrup as the boy was getting so fat. The stools became more persistently firm, but were still variable. A particularly bad specimen was found to contain (Webster) 46·6 per cent. of fat (neutral fat, 10·5 per cent.; fatty acid, 50·9 per cent.; soap, 38·6 per cent. of total fæcal fat). This, although showing more fat than the previous specimen, was still an improvement on the first stool. Later, the stools became quite persistently more satisfactory in appearance, smaller, darker, and more formed.

During the 15 weeks in which he took bile-salts the boy gained nearly 7 lb. and grew ¾ in. in height. The urinary diastase number, which was 10 before the bile-salts were started, was found to be raised to 25 and 28 during their administration. Seen six months after his discharge, without further treatment and on ordinary diet, he has grown a further 1¼ in. and has gained 3¾ lb.; the stools remain small, dark, and formed.

Encouraged by these results I determined to try the same procedures on a girl who had attended me for several years for cœliac disease, although I anticipated great difficulty in her case. Two factors render this case about the most troublesome one that I have encountered. First, her tolerance for fat is extremely low, which probably accounts for the fact that at the age of 7 she developed well-marked "late rickets." Secondly, all treatment is rendered most difficult by her obstinate refusal of food. No one who has not experienced this symptom in cœliac children can appreciate the absolute bar that this complication presents, more especially where, as here, a perfectly constant diet is necessary. Moreover, in this child, anything approaching forceful persuasion to eat produces vomiting and looser stools. The attempt, however, was made to carry out the same investigations as in Case 1. The child was put on a constant diet and the fat percentage of the stools determined. Then bile-salts were given without changing the diet. There was a quick improvement in the stools, both in appearance and on analysis, and a rapid gain of weight. These improvements were not maintained, and the child refusing the diet the experiment had to be abandoned.

CASE 2.—Doris F. Diarrhœa and vomiting started at the age of 2, the former persisting ever since. Has been under my care since 3. At 7 developed marked rickety changes, swelling of radial epiphyses, knock-knee, and curving of tibiæ. Has the habit of eating dirt and is most perverse over her food. At 7 years 11 months I admitted her. In 15 days she gained 1½ lb., and I sent her to our convalescent home. There she remained for about three months, but losing weight rapidly she was readmitted direct to hospital. On readmission: aged 8 years 3 months, height 36½ in. (normal for age about 47 in.), weight 24 lb. 6 oz. (normal about 52 lb). Abdomen: large. Stools: 4–5 daily, large, pale, loose, offensive. "Tryptic" activity good (casein test).

Course.—She was immediately placed on a diet containing roughly 25 g. fat daily. Even this appeared rather too rich for her, but was persevered with in the hope that the bile-salts might render it better tolerated. On the fourth day of this diet a specimen of the fæces showed in the dried state (Webster) 52·4 per cent. of fat (neutral fat, 15·3 per cent.; fatty acid, 75·4 per cent.; soap, 9·3 per cent. of total fæcal fat). The urinary diastase number was 10. On the diet she gained 10 oz. in weight in five days. Her stools were two daily, large, liquid, and pale. On the fifth day bile-salts in an alkaline mixture were started, with no change in the diet. Five days later the stools were noted as definitely improved, semi-formed, and certainly darker. By the end of one week's treatment with bile-salts she had gained a further 2 lb. 4 oz. After this, however, the stools began to get less satisfactory again, and her weight to drop. There was considerable difficulty in persuading her to take the prescribed food, causing emotional distress. At the end of the second week of treatment the stools appeared unsatisfactory, but a specimen analysed (Webster) was found to contain dried 33·7 per cent. of fat (neutral fat, 7·7 per cent.; fatty acid, 49·3 per cent.; soap, 43·0 per cent. of total fæcal fat). This percentage showed considerable improvement on that obtained in the first analysis, but probably a lower figure would have been obtained if the specimen had been taken at the end of the first instead of the second week of treatment by bile-salts. By now the difficulties in getting the child to take the food were insuperable, and the diet had to be altered, so that no further analyses were made. The urinary diastase number went up from 10 before to 22 during the administration of bile-salts.

Although it is possible to point to a considerable gain of weight and improvement in the stools directly after the commencement of the treatment by bile-salts before the emotional disturbances began, the case as a whole was disappointing and unconvincing. Were it not for the striking results obtained in the first case, I should lay little stress on the temporary improvement shown in Case 2. On the other hand, it must be remembered that the difficulties in carrying out the investigation at all in this case were very great.

In the third case it was possible to make rather more elaborate investigations. These are detailed below, but the following points should be noted. 1. The disease was throughout in a quiescent stage. On admission and during all the treatment the stools were small and nearly normal in appearance. In this respect this case differs much from the previous ones. 2. The boy was fed on three different diets whose fat-contents were accurately known. 3. In the previous cases chance specimens of fæces were analysed. In the present one, in order to obviate possible variations in their fat-content from day to day, the fæces for 76 hours were collected, weighed, mixed, and from them a specimen was taken, weighed, dried, and analysed. 4. Knowing thus the daily intake and the daily output of fat, it was possible to calculate the percentage of fat utilised on the various diets. 5. This procedure was repeated during the administration of bile-salts and the results obtained compared with the previous figures.

CASE 3.—Albert C. Diarrhœa with abdominal enlargement started gradually at 3 years 7 months. First brought to me two months later, weighing 25 lb. 12 oz. At 4 years was admitted under my care. He was treated by dieting and bynopancreatin, and was discharged at the end of two months, having lost 1 lb. 12 oz.

On readmission, aged 5 years 5 months; height, 39½ in. (normal for age about 41½); weight, 37½ lb. (normal about 42). Small but well nourished. Abdomen rather large. Colour good. Stools 1–2 daily, not large, fair colour, semi-formed or formed. Loewi's pupil test, negative; urinary diastase, 10. "Tryptic" activity of stools (casein test) good. Allowed up in the ward; for a week given an ordinary mixed diet, on which he gained 4 oz. in weight. On the eighth day given a fixed diet containing 60·26 g. fat daily (Diet A). All the fæces passed on the 11th, 12th, and 13th days were collected and weighed, and on analysis showed 24·0 per cent. fat (neutral fat, 19·1 per cent.; fatty acid, 14·4 per cent.; soap, 66·6 per cent. of total fæcal fat). Immediately after this the fat in the diet was increased to 75·11 g. daily (Diet B). After four days on this the stools were collected again for three days. On analysis they showed in the dry state 28·0 per cent. fat (neutral fat, 12·8 per cent.; fatty acid, 28·7 per cent.; soap, 58·5 per cent. of total fæcal fat). The fat in the diet was then again increased to 89·24 g. daily (Diet C). After three days the stools were collected for four days. These showed on analysis 28·4 per cent. fat (neutral fat, 8·5 per cent.; fatty acid, 28·2 per cent.; soap, 63·3 per cent. of total fæcal fat).

From the data obtained it is possible to present figures showing (*a*) the daily absorption of fat and (*b*) the utilisation of fat on the three diets. Given in order, passing from the diet poorest in fat to the one richest in fat, we find:—

On Diet A he took	60·26 g.	and excreted	14·3 g.	fat daily.
,, B ,,	75·11 ,,	,,	16·8 ,,	,,
,, C ,,	89·24 ,,	,,	12·7 ,,	,,

Thus, the greater the daily intake of fat the larger the amount absorbed daily. Further, the utilisation of the fat improved in the same way; the greater the daily intake of fat the larger was the percentage (per 100 g. fat taken) absorbed.

On Diet A he absorbed	76·3	per cent.	of the	fat taken.
,, B ,,	77·7	,,	,,	,,
,, C ,,	85·8	,,	,,	,,

These figures, showing that the patient absorbed more fat on the richer diets than on those less rich, are confirmed by the alterations in weight of the boy on the various diets.

On Diet A he lost	... ...	1 oz.	in 6 days.
,, B ,, gained	... ...	1 ,,	,, 7 ,,
,, C ,,	,, ...	15 ,,	,, 8 ,,

The patient was then given a mixed diet, bile-salts being administered from that time onward. The stools began to get smaller, and days of absolute constipation occurred. After he had taken bile-salts for ten days he was put back on to a fixed diet. For the purpose Diet C, the richest in fat,

was chosen, as it appeared likely that on either of the other diets constipation might upset the calculations desired to be made, and, of course, no aperients could be permitted during the days of collecting the fæces. After three days the stools for three days were collected. On analysis these showed, dried, 28 per cent. of fat (neutral fat, 5·4 per cent.; fatty acid, 16·1 per cent.; soap, 78·5 per cent. of total fæcal fat).

A comparison between the results obtained on Diet C before and during the administration of bile-salts can now be made:—

On Diet C.	Without bile-salts.	With bile-salts.
Weight of fæces daily	290·5 g.	141·6 g.
,, dried fæces daily	44·6 g.	41·5 g.
Fat excreted daily...	12·7 g.	11·6 g.
Percentage of fat in dried fæces ...	28·4 %	28·0 %
,, ,, fæcal fat excreted in split form	91·5 %	94·6 %
,, ,, fat taken which is absorbed...	85·5 %	87·0 %

These figures show that while there is a great diminution of the amount of water excreted in the fæces during the administration of the bile-salts, the other figures are only slightly improved when the bile-salts are being given. During the time when bile-salts were being given their presence could not be detected in the urine with certainty by the sulphur test. The urinary diastase number became raised to 20.

Discussion and Conclusions.

1. *Percentage of fat in stools.*—In the first two cases, where the stools were unformed and typical of cœliac disease, the percentages of fat in the dried fæces were 57·14 and 52·4. These figures correspond to those obtained by others. Cammidge, examining three cases for Still, obtained percentages of 26·9, 73·1, 42·5. In Cheadle's cases Willcox's figures were 33 per cent. in one case and from 19·8 to 49·65 per cent. in another. Herter found from 25 to 47·2 per cent. In Case 3, where the stools were as satisfactory as is ever the case in this patient, it is interesting to note that the percentages of total fat in the fæces were still slightly above the normal figure. Here percentages from 24 to 28 were obtained. It would appear, therefore, that even in quiescent stages the absorption of food-fat is rather below the normal. If this is so, cœliac disease must be associated with some causative anomaly which, as it were, waxes and wanes rather than comes and goes; and I think careful clinical study of the variations in a cœliac case strongly supports this view.

2. *Fat absorption and utilisation.*—Case 3 is the only one in which accurate figures can be given, and these have been displayed above. They show that during a quiescent stage of the complaint increasing the daily intake of fat not only increases the absolute amount of fat absorbed daily but even the percentage of the food-fat absorbed. Obviously there must be a limit to this rule, but the figures enforce an important clinical fact that it is unwise perpetually to starve the patient of fat, treating the stools and not the child. In my experience there is often a better gain of weight when the stools are semi-formed and obviously fatty, than when they appear more normal in consistence and colour. In active stages of the disease, however, the fat in the diet should be reduced.

3. *Fat-splitting.*—It is difficult to say what proportion of the fat in the fæces should appear as split fat; usually 75 per cent. is regarded as the normal. The figures obtained in the cases presented here are as follows:—

		Without bile-salts.	With bile-salts.
Case 1	... ...	80% (approx.).....	87·7% 89·5%
Case 2	... ...	84·7%	92·3%
Case 3	Diet A	80·9%	—
	Diet B	87·2%	—
	Diet C	91·5%	94·6%

The figures show, first, that there is no sign of any defect in the splitting of fat, and we may with some confidence conclude that the deficient fat-absorption in cœliac disease is not due to deficient fat-splitting. Secondly, there is some improvement in fat-splitting during the administration of bile-salts. This, I think, is probably to be accounted for by the lessening of peristalsis accompanying the improved fat-absorption. Thirdly, there arises the important question: What value have these figures in excluding the pancreas as the cause of cœliac disease? It is no longer tenable that with adequate fat-splitting pancreatic disease is absolutely excluded. The modern view is, rather, that disease of the pancreas is present where there is definitely defective splitting of fat, but that its possibility cannot be set aside in all cases where fat-splitting is normal. Nevertheless the fact that these three cases, all of exactly the same type, all show highly efficient splitting of fat, may be claimed to be some support to the view that the pancreas is not the cause of the excessive fat wastage. In view of the fact that in the cases reported by Cheadle, Herter, and Still the fat-splitting was always efficiently performed, we may perhaps go a step further in the matter and state that no case of cœliac disease has yet been reported in which the fat-splitting was so defective as to point towards pancreatic insufficiency.

4. *The pancreas in cœliac disease.*—Although the present paper is not primarily concerned with disputing the pancreatic origin of cœliac disease, I think it well to state that I have never found any positive evidence pointing towards pancreatic insufficiency. From the nine cases I have studied the following evidence may be quoted: (*a*) In my only autopsy the pancreas and its ducts were perfectly normal; (*b*) true steatorrhœa, the passage of liquid separated fat, I have never seen in cœliac disease; (*c*) creatorrhœa I have never observed. Protein digestion has always appeared as adequate as the rapid peristalsis would permit; (*d*) in the two cases I have tested the stools gave clear evidence of proteolytic activity by the casein test; (*e*) the urinary diastase test (four cases) has always given numbers within normal limits; (*f*) Loewi's pupil test has always been negative; (*g*) there has been no evidence of defective fat-splitting (see above).

5. *Treatment by bile-salts.*—I consider first the case which was in a quiescent stage (Case 3). Here the fat wastage in the stools was only slightly above the normal, and the splitting and utilisation of the food-fat were good before the administration of bile-salts. While they were being taken the chief change which took place was that the motions became much more dry and firm, while on analysis there were seen great diminution in the amount of water contained in the fæces and a slight improvement in the absorption, splitting, and utilisation of fat. Evidently in a case doing as well as this one during the period of investigation not much may be hoped for from the employment of bile-salts.

Turning to Cases 1 and 2 the disease was showing active symptoms, the motions being large, pale, and fatty, and it is clear that bile-salts would have their best effect here if they are of any value in the treatment of cœliac disease. The evidence produced is not as complete as I should wish, since I am not able to give the important figures for fat utilisation (percentage of food-fat absorbed). This figure does not necessarily alter in strict correspondence with variations in the percentage of fat in the fæces even with a constant diet; nevertheless, we are justified in concluding that the fat in the food is being better absorbed where there is a distinct drop in the percentage of fat in the fæces combined with an increase in the patient's weight, no alteration having been made in the diet. In both Cases 1 and 2 such improvements occurred during the time in which they were taking bile-salts. In Case 1 the percentage of fat in the dried fæces dropped from 57·14 to 26·7 in a good specimen, and 46·6 in a bad one, and the child's weight-chart showed that a loss of weight became changed to a rapid and sustained increase. In Case 2 the percentage of fat in the dried fæces dropped from 52·4 to 33·7, and had, I think, been lower, while the gain of weight was rapid and immediate; but the improvement was not maintained under circumstances already detailed. In both cases the diet was constant throughout the periods under review; the only alteration made in the treatment was the administration of bile-salts.

Summing up, the evidence here presented suggests, in my opinion, that during the stages of fatty diarrhœa in cœliac cases bile-salts may cause an improvement in

fat-absorption; while in the quiescent stages, when the stools are comparatively normal, their action is much slighter. On the further question as to whether we may attribute the fatty diarrhœa of cœliac disease to a failure in the secretion of bile-salts, many more observations are evidently required before this opinion could be proved correct. In the one case examined it was not possible to detect the presence of cholalic acid in the fæces before bile-salts were given; but the clinical effects of the use of bile-salts were certainly not sufficiently striking or complete to prove this view, which I suspect will ultimately be found to be correct. In this connexion it may be suggested that it is very possible that the excessively fatty contents of the intestine may set up a transient catarrhal enteritis, which itself may limit further the absorption of fat. Over this, bile-salts would have no immediate effect.

6. "*Late rickets.*"—A case has been here reported (Case 2) in which at the age of 7 years rickety changes occurred in the long bones. The skiagraphic evidence was also in accordance with the usual changes in rickets. So far as I know such a condition has not previously been recorded in connexion with cœliac infantilism. It is curious that in this disease, in which the absorption of fat is so conspicuously defective, changes in the long bones are so much less frequent than in renal infantilism. Perhaps the minor manifestations of rickets are missed. Delay in dentition may certainly occur. In one case seen, aged 18 years (height 3 ft. 9 in.), the last temporary tooth had only just been shed. In another case, aged 10 years and 9 months, the dental development was that of a child between 8 and 9 years of age. In neither case were there any signs in the long bones.

7. *Urinary diastase test.*—A curious point arises here that the figures obtained in this test were in every case considerably heightened when bile-salts were being given. Before treatment the figure of each case was 10, while during treatment the figures mounted to 22–28. These augmented figures are, of course, well within normal limits. What significance, if any, this alteration may have I do not know. It is perhaps worth while mentioning that in the case of the higher figures the test no longer gave quite such clear-cut results as in the lower range of figures. We were not able to reproduce the alteration in the diastase number by adding a trace of bile-salts artificially to a urine whose urinary diastase number was known.

Summary of Results.

No. of case.	Daily totals in grammes.								Percentages.					Utilisation.	
	Fat taken.	Wt. of fæces.	Wt. of dried fæces.	Fat excreted.	Neutral fat.	Split fat.	Fatty acid.	Soap.	Fat in dried fæces.	In total fæcal fat.				Per 100 g. fat taken.	
										Neutral fat.	Split fat.	Fatty acid.	Soap.	Excreted.	Absorbed.
1	59*	—	—	—	—	—	—	—	57·14	—	80*	—	—	—	—
	*59**	—	—	—	—	—	—	—	*26·7*	*19·3*	*87·7*	*27·0*	*60·7*	—	—
	*59**	—	—	—	—	—	—	—	*46·6*	*10·5*	*89·5*	*50·9*	*38·6*	—	—
2	25*	—	—	—	—	—	—	—	52·4	15·3	84·7	75·4	9·3	—	—
	*25**	—	—	—	—	—	—	—	*33·7*	*7·7*	*92·3*	*49·3*	*43·0*	—	—
3	60·26	245·6	59·56	14·3	2·7	11·6	2·1	9·5	24·0	19·1	80·9	14·4	66·5	23·7	76·3
	75·11	264·6	60·2	16·8	2·2	14·6	4·8	9·8	28·0	12·8	87·2	28·7	58·5	22·3	77·7
	89·24	290·5	44·6	12·7	1·1	11·6	3·6	8·0	28·4	8·5	91·5	28·2	63·3	14·2	85·8
	89·24	*141·6*	*41·5*	*11·6*	*0·6*	*11·0*	*1·9*	*9·1*	*28·0*	*5·4*	*94·6*	*16·1*	*78·5*	*13·0*	*87·0*

Figures in italics are those obtained during administration of bile-salts. * Figure approximate only.

I desire to express my gratitude to Professor Roaf for his helpful advice, as well as for the assistance detailed in this paper; also to Dr. H. B. G. Newham, C.M.G., who, early in my investigations, encouraged me by stating that in 1911 he had successfully checked the diarrhœa of an unrecorded cœliac case in a child by using "tabloids" of pig-bile. My thanks are also due to the sister of my ward for her careful coöperation in carrying out the investigation of the cases.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON

UNUSUAL COMPLICATIONS IN PNEUMONIA.

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THE two following cases may be of interest as illustrating the difficulty which may be experienced in the diagnosis of pneumonia of the cerebral type.

CASE 1.—A. W., a boy aged 6 years, was brought to hospital by his mother, who gave the following history. At 6 P.M. on March 27th he was quite well. At 10.30 P.M. the same evening she found him crying with pain in the right side of the stomach. At 10 A.M. on March 28th he seemed delirious. At 3 P.M. the same day he was much worse, and so she brought him to hospital. There was no history of vomiting, shivering, or cough. Food poisoning was eliminated.

On admission the child appeared pale and ill. The temperature was 101·2° F., pulse 136, respiration 40. He was unconscious and could not be roused. He moaned a little, but there was no meningeal cry. The tongue was furred. The tonsils were enlarged and injected. The air entry over the left pulmonary apex was poor. No other lesion of the lungs or heart was found. The child frequently placed his hands over the right iliac fossa, and he wriggled considerably whenever this region was palpated. There were no other signs of appendicitis. There was slight internal strabismus and ptosis. The knee-jerks were absent and the plantar reflexes doubtful. Otherwise the nervous system was normal. Kernig's sign, rash, and head retraction were all absent. The C.S.F. was under increased tension, but otherwise normal. A diagnosis of pneumonia of the cerebral type was made. He vomited bilious matter four times during the night and remained in a condition of profound shock until he died at 6 A.M. on March 29th. Just before death the temperature was 102° F., the pulse 152, respiration 48.

Post-mortem examination revealed left-sided pleurisy with purulent fluid in the pleura, chiefly occupying the apical region. This fluid grew pneumococci, no influenza organisms were found. There was red hepatisation of the left lower lobe. The appendix was not found at first, but there were many large glands the size of a hazel-nut round the cæcum, to which were attached several adhesions. On tracing up the appendix from within the lumen of the gut an abscess cavity was discovered containing a thimbleful of pneumococcal pus. The brain was normal.

CASE 2.—J. C., boy, aged 6½ years, was brought up to hospital on March 26th by his mother, who gave the following history. At 10 P.M. on March 24th the boy had sudden acute pain in the right side of the stomach. Convulsions and repeated vomiting quickly followed. After 12 hours he became unconscious and slightly delirious.

On admission at 4 P.M. on March 26th he was found pale and unconscious. The temperature was 102·4° F., pulse 116, respiration 36. There was some cough. Tongue clean. No rashes present. The air entry was poor over the right pulmonary base and a few fine crepitations were audible in this region. On palpation in the region of McBurney's point the boy writhed and put up his hands as if to prevent himself being touched. There were no other signs or symptoms of appendicitis. The knee-jerks were absent. There was no Kernig's sign, head retraction, or rash. The C.S.F. was under increased tension, but otherwise normal. A diagnosis of pneumonia or acute miliary tuberculosis was made. He gradually recovered consciousness, and on March 28th definite bronchial breathing was audible over the right lower lobe and a diagnosis of pneumonia was made. A lump was now distinctly palpable in the right iliac fossa, suggestive of enlarged glands. There were no other glandular enlargements. On March 29th the temperature, pulse, and respiration came down by crisis and he soon became convalescent. The glands remained unchanged, but did not seem to worry him.

The manner in which pneumonia can simulate appendicitis, probably by causing a right-sided diaphragmatic pleurisy, is well known. However, in Case 1 the pneumonia and pleurisy were on the left side, and the appendix must have been inflamed for some days before the onset of acute symptoms. Probably the pulmonary condition was due to a generalised pneumococcal infection originating in the appendix. The cerebro-spinal fluid appeared to make the diagnosis from cerebro-spinal fever easy, but I have seen this fluid appear quite normal, though under increased tension, in the very early stages of this disease, as well as in influenza and acute intestinal toxæmia. In Case 2 generalised tuberculosis became improbable after the result of the lumbar puncture; though, before definite pneumonic signs appeared, this condition, originating in the cæcal glands, could not be eliminated. Appendicitis seemed improbable. The parallel with Case 1 is interesting. Within one day of the admission of Case 2 another case came in with very similar signs, but was well in 48 hours, a tentative diagnosis of toxæmia being made.

I have to thank Dr. Edmund Cautley and Dr. Philip Hamill for their kindness in allowing me to publish these notes on their cases.

AN UNUSUALLY LARGE RENAL CALCULUS.

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THE interest in the following case lies in the circumstance that it has been possible for a stone to attain such an enormous size in the renal pelvis without manifesting any clinical sign or symptom in its early stage.

History of the case.—Patient, a male, H. R. P., aged about 50 years, was admitted into hospital on Nov. 20th, 1919, for an abdominal tumour, which, he said, he noticed about six months ago and which had increased in size gradually ever since. About a year previous to the appearance of the tumour he noticed blood in the urine and burning sensation during micturition in the region of the bladder. But during the last six months he had not noticed any blood in the urine, but the quantity of urine had gradually diminished since the appearance of the tumour. He never had any renal colic, nausea, or vomiting, but his appetite had failed since the appearance of the tumour and he had become emaciated.

Present condition: Patient is pale, anæmic, and emaciated, and looks aged. His teeth are covered with tartar and he has pyorrhœa. Tongue coated and moist. No temperature. Appetite impaired. Has looseness of bowels for the last 12 days.

Local examination: A tumour, of about the size of a medium-sized coconut, is seen to occupy the region of the right hypochondrium, right lumbar, and the right half of the epigastrium and umbilical regions. On palpation it is fairly smooth, rounded, and hard. It is not freely movable. No fluid thrill is felt in it. It is dull on percussion, and the dullness is continuous with the liver dullness. There is pain felt in the tumour on deep pressure. Colonic resonance present. The opposite kidney cannot be felt. The other abdominal organs appear to be normal. Respiratory system is normal. Heart sounds are weak, but no dilatation noted. Pulse small, frequent, and compressible, about 110 per minute.

Urine: Sp. gravity, 1025; colour, faintly reddish; reaction, slightly alkaline; sugar and albumin, nil; microscopic examination showed a few R.B.C. and plenty of pus cells.

Diagnosis: On account of its rapid growth during the last six months, as stated by the patient, the hardness of the tumour, absence of renal colic from the commencement, the presence of blood in the urine during the early stage, and rapid emaciation the tumour was thought to be of malignant nature. The possibility of a renal calculus was never entertained.

Operation (28/10/19).—As the patient was in a very weak state and emaciated, the chances of a successful operation were very remote, but he was anxious that something should be done to relieve his sufferings. So with great reluctance I consented to perform the operation. As the tumour was a large one it was thought advisable to tackle it through an abdominal incision instead of the usual lumbar incision. Accordingly an incision was made along the right linea semilunaris and the abdominal cavity opened. The intestines having been packed away, the peritoneum over the tumour was incised longitudinally and the two halves separated from the surface of the tumour to facilitate removal. On feeling the tumour now it felt stony hard, with a thin capsule surrounding it. It did not present the appearance of a new growth. As there was no time to be lost I proceeded with its removal, which was attended with difficulty on account of its adhesions. The fatty capsule of the kidney was adherent to the diaphragm and the ribs posteriorly, and at its medial end the tumour was also adherent to the inferior vena cava to a small extent. After ligaturing the renal artery, vein, and ureter separately I was able to remove the whole tumour intact except the small portion adherent to the inferior vena cava, which was left behind. It was only this small area which appeared to be malignant at all. The peritoneum over the posterior abdominal wall was approximated with fine catgut continuous suture, and the abdominal incision was closed in three separate layers. The patient rallied from the operation in an hour's time, became conscious, and was able to answer questions. Rectal saline was given. Later in the evening he showed signs of collapse. Intravenous saline and pituitrin injections were freely given, but of no avail. He died about 14 hours after the operation.

Morbid anatomy.—The tumour is smooth, round, and surrounded with a capsule formed by the thinned-out kidney substance and pelvis. The kidney is elongated, but much reduced in size, and occupies the lateral convexity of the tumour. On incising the capsule a large stone, dark brown in colour and granular in appearance, was found to occupy the cavity of the pelvis. It was easily detached from the cavity. The whole tumour weighs 4¼ lb. At its upper and medial aspect the tumour is friable and has a granular-looking surface. It was at this spot that it was adherent to the inferior vena cava. The stone weighs 3 lb. Its largest diameter is 6½ in., the shortest diameter is 6 in., and its circumference is 15½ in. There was no other stone present. The stone was covered with creamy pus.

As far as I know, a renal calculus weighing 3 lb. has never been recorded, and what is more surprising than the size of the stone is that the patient should not have felt any inconvenience whatever during the period it had been slowly growing until six months previous to his admission to the Victoria Hospital. A calculus of this size should have taken several years to form by slow deposit in the ordinary course of events.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

AT a meeting of this section of the Royal Society of Medicine, held on Oct. 22nd, Dr. FREDERICK LANGMEAD, the President, having thanked the members for the honour they had done him in electing him to the chair, asked for a full measure of their support, by showing cases and by submitting papers to the section. Owing to the days on which the Section meets, early notification of the titles of the cases to be shown is very advantageous, as only in this way can an announcement be published in the diary card of the Society and the medical papers. He was empowered by the Council to state that a meeting would be held on each of the fixed dates, and that in the unlikely event of insufficient material being forthcoming for an ordinary meeting, an informal discussion would take place.

EXHIBITION OF CLINICAL CASES.

Severe Anæmia.

Dr. H. CHODAK GREGORY showed a case of Severe Anæmia.

The patient, a female child, aged 1 year and 5 months, had first come under observation nearly two months ago for pallor, loss of appetite, and drowsiness of one months' duration. Vomiting had occurred once or twice, the stools were pale and offensive, and there had been no hæmorrhages. She had been breast-fed for three months and then fed on condensed sweetened milk. There was no tuberculosis in the family and nothing to suggest syphilis. The spleen reached to the level of the umbilicus and the liver was also enlarged to two fingers breadth below the costal margin in the nipple line. No lymphatic glandular enlargement of consequence; heart, lungs, and urine normal. Stools pale, otherwise normal. Blood count: red corpuscles, 3,500,000; colour index, 0·16; white cells, 1880; polymorphs, 36·5 per cent.; small lymphocytes, 53 per cent.; large lymphocytes, 5·5 per cent.; large hyalines, 2·75 per cent.; eosinophils, 1·75 per cent.; mast cells, 0·5 per cent. Six normoblasts were seen in counting 400 white cells. Fragility of red cells normal. The Wassermann reaction was negative. Three days later the blood count showed a decrease of red cells and a slight increase of white. The general condition become steadily worse, the temperature raised every night, the pulse rapid and weak, and the right side of the heart considerably dilated. Eight days after admission the child suddenly collapsed and seemed to be dying, but was revived by transfusion of 20 c.cm. of the mother's blood in 10 per cent. sodium citrate into the left external jugular vein. A second transfusion of 10 c.cm. of blood was done four days later. Steady improvement had followed. Apart from the transfusions, treatment had been limited to small doses of iron and arsenic, and to camphor injections when a stimulant was needed.

Dr. J. H. THURSFIELD congratulated Dr. Gregory on the excellent result of the treatment. He had no hesitation in diagnosing the case as one of von Jaksch's anæmia, a condition which he regarded as a distinct clinical entity having closer relation to spleno-medullary leukæmia than to other forms of anæmia. An unusual feature in this case was the absence of hæmorrhages. From a large series of cases which he had studied in collaboration with Dr. Drysdale, he was able to say that though fatalities occurred from intercurrent diseases, to which these children were liable, those who survived got well completely.—Dr. H. C. CAMERON referred to the food which this child had been taking, during the development of the anæmia—viz., condensed sweetened milk—and thought that defective dieting must be taken into account in the consideration of the anæmia of infants. It was generally recognised that after the cessation of breast-feeding, iron-containing constituents were necessary, and also that the reaction of the hæmopoietic system to small defects produced marked alteration of the blood in infants.—Dr. ERIC PRITCHARD agreed with all that Dr. Cameron had said, and referred to similar cases described by Dr. P. Parkinson, which appeared to have followed infection by scarlet fever. He had himself observed such a case.

He spoke also of the exceptionally good and quick results sometimes obtained by the subcutaneous injection of collosol iron in anæmia in children.

Dr. BERNARD MYERS showed a case of

Transposition of Viscera Accompanied by Congenital Heart Disease.

The child, aged 1 year and 4 months, had been blue and short of breath since birth. The face was slightly dusky and lips cyanosed. The heart and spleen were on the right side and the liver on the left. The apex beat was situated in the right nipple line, fourth space. Dullness extended up to the second right space and to about half an inch to the left of the sternum. A systolic murmur was heard in the second right space close to the sternum, and what appeared to be another systolic murmur had its point of maximum intensity over the third right costal cartilage half an inch from the sternum. The transposition of the viscera was confirmed by radiography. Recently a new murmur had been heard at the apex, conducted to the right axilla. An electro-cardiogram was characteristic of dextrocardia. There were 10,400,000 red blood cells per c.mm. and 130 per cent. Hb.

Dr. Myers took the view that the case was one of pulmonary stenosis and patent interventricular septum, regarding the second lesion as evidenced by the mildness of the symptoms, the bruit at the third right costal cartilage, and the fact that the second sound was neither accentuated nor diminished or absent.

Bilateral Cataract.

Mr. H. R. JEREMY showed a case of Bilateral Cataract, which he regarded as due to deficiency of internal secretion.

Case for Diagnosis.

Dr. D. H. PATERSON showed (for Dr. F. J. POYNTON) a case for diagnosis.

The patient was a boy, aged 5 years, whose parents stated that his skin had been "too big for his body" since birth. The skin seemed unduly mobile over the subjacent muscles —a condition which was universal, but most marked in the distal parts of the extremities. There were many scars on the knees and elbows, the scars being wide and appearing stretched. In the subcutaneous tissues were a few small, mobile, seed-like bodies. Sections made of the skin of the forearm, compared with similar sections in a normal child, showed a lack of fibrous trabeculæ running between the skin and deep fascia.

Dr. F. PARKES WEBER suggested that the nodules consisted of deposits of calcium carbonate in the meshes of the fibrous tissue. In cases of subcutaneous deposition of calcium carbonate the skin was often abnormal. —Dr. E. A. COCKAYNE did not consider that the case was one of elastic skin. In such cases there was a myxomatous condition present.—The PRESIDENT, in agreement with Dr. Parkes Weber, suggested the diagnosis of calcinosis. That disorder was by no means immaterial, for he had had under his observation a child who was now too ill to be brought to hospital in whom the calcium carbonate deposits were causing multiple abscess formation with discharge of mixed blood and chalk.

Mr. B. WHITCHURCH HOWELL showed a case of

Fracture of the Pelvis with Dislocation.

The patient was a boy, aged 7, who had been knocked down flat on his back by a motor-car. He was admitted to an infirmary for three weeks, and on discharge could not walk alone and dragged his legs, the right worse than the left. On examination a triangular flattening was found over the sacral area, with signs of old bruising and a network of veins. This area was tender, and there was also some tenderness over the pubes. He had some lordosis. The movements of his spine were good, and there was nothing peculiar about his gait. The femoral pulses were equal. Knee-jerks +, left greater than right. Thickening of the os pubis was detected by rectal examination. Radiograms by Dr. U. Williams showed a fracture of the ilium in the region of the sacro-iliac joint, with downward dislocation of the sacrum, as well as a fracture of the pubes near the symphysis. Lumbar spine was normal. The boy was shown as a case of extensive injury to the pelvis, with apparently very few symptoms—no urinary disturbance, no damage to the sacral plexus of nerves, slight deformity.

The PRESIDENT showed four cases. The first was that of a male infant, aged 6 months, with

Overgrowth of Hair on Part of the Scalp.

He was in good health and otherwise normal. Over the occipital and right parietal regions was a mat of long, dark, silky hair, while the remainder of the scalp was covered by down of normal appearance and length. The normal hair was growing slowly. No treatment was being adopted. For cosmetic reasons much depended upon the colour which the normal hair is going to assume. The patient being a boy there should be no difficulty in rendering the abnormality inconspicuous. The hair on the affected side encroached slightly beyond the normal hair limits and the ear was somewhat thickened, pigmented, and hairy.

Dr. COCKAYNE considered the overgrowth of hair was due to a hairy mole in view of its encroachment upon the ear and neck. Judging by the pigmentation of the irides, he thought that the normal hair, when it grew, would be lighter in colour.—Dr. THURSFIELD agreed with Dr. Cockayne as to the diagnosis, and Dr. PARKES WEBER preferred the term hairy nævus, and spoke of the close similarity of its limits to that of the normal hair line.

The second case was that of a female infant, aged 1 year 5 months, in whom there was

Defective Development of Certain Neck Muscles.

The patient was brought to hospital because she "could not sit up straight; the head fell forward, the neck did not fill out, and she was unable to stand." Examination revealed that though she could sit up for a short period, her most comfortable attitude was a semi-reclining one, by which means the head could be kept vertical. The neck had a very scraggy appearance, owing to imperfect development of certain muscles. Of these the sterno-mastoids were conspicuously rudimentary, while the upper part of the trapezii were small. The short occipital-vertebral muscles appeared to be normal. The cervical vertebræ were unduly conspicuous, while the scapulæ were somewhat small. The condition had been present from birth and was unaccompanied by symptoms other than those of muscular inefficiency. There was a degree of general muscular hypotonia. Dr. Ironside Bruce reported that the electrical reactions were normal in quality.

Dr. THURSFIELD discussed the question of possible involvement of the upper cervical nerve-supply as the result of injury at birth. The shoulder girdle muscles seemed to be normal except the trapezius. As muscular tissue was present he thought that improvement might follow remedial exercises.

The third case was one of

Cirrhosis of the Liver.

The patient was a girl aged 5½ years, whose general condition was good. Nothing had been noticed until she was a year and a half old, when telangiectases appeared on the face The liver was enlarged, especially its left lobe, hard, and free from tenderness. The spleen extended for about 2½ inches below the costal margin. There was no ascites and only on one occasion had she developed slight jaundice. Epistaxis had occurred on four or five occasions, and during a recent attack of whooping-cough there had been also hæmatemesis and melæna. The lymphatic glands were not enlarged and the blood showed no particular features. There was no history of alcohol and the Wassermann reaction was negative on two occasions. The absence of ascites was perhaps a point against the diagnosis of cirrhosis of the liver, but experience had shown that this was often delayed until late in cirrhosis in childhood, and then quickly followed by a fatal issue.

Dr. PARKES WEBER thought that the combination of epistaxis, hæmatemesis, slight jaundice, enlargement of the liver and spleen, and telangiectasis afforded almost conclusive evidence of cirrhosis of the liver. The prognosis of such a case showing these symptoms at an early age was bad, and death might occur from a fatal hæmatemesis.

Rhythmical Involuntary Movements.

The fourth case was that of a boy, aged 2 years and 9 months, who showed rhythmical involuntary movements choreiform in type.

Until 6 months of age the child had remained quiet and inactive; at that time he began to use the right arm in a jerky way. Thereafter, as his muscular activity increased the rhythmical movements became general. Though bright in appearance he was obviously mentally defective and could neither sit, stand, or crawl. There were no contractures or rigidity. The most striking feature was constant involuntary movements of the limbs somewhat resembling those of chorea but differing, by the sudden interposition of shock-like jerks. The reflexes were exaggerated. The cerebro-spinal fluid was normal, and the Wassermann reaction both of the cerebro-spinal fluid and blood was negative. Recently there had been attacks of rigidity on the right side, accompanied, according to the mother, by pallor on the same side.

The President said that Dr. Poynton had kindly allowed him to use the in-patient notes of this case. He regarded the case as one which, symptomatically, could be called cerebral diplegia of the choreiform variety, and suggested that the lesion was one of defective development of the basal ganglia.—Dr. COCKAYNE said that he had seen a child with very similar movements after an attack of encephalitis lethargica.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Trypanosomiasis Research.

AT a meeting of this society held at 11, Chandos-street, on Oct. 15th, with Professor W. J. R. SIMPSON, the President, in the chair, a discussion on the Present Position of Trypanosomiasis Research was opened by Professor WARRINGTON YORKE. His review of this important subject drew attention to the problems which were referred in 1913 to an interdepartmental committee under the chairmanship of the Earl of Desart, for investigation of the following points :—

(1) As to the parts played by wild animals and tsetse-flies in Africa in maintaining and spreading trypanosome infections of man and stock.

(2) As to how far it was necessary or feasible to carry out game destruction in a chosen area by way of experiment.

(3) As to the advisability of attempting to exterminate wild animals generally or locally for the purpose of checking trypanosomiasis in men and stock.

(4) What other measures of control should be undertaken.

The report of this committee appeared in a Blue-book in May, 1914, and Professor Yorke in his paper quoted in extenso from the general conclusions. Any action based on the committee's findings was necessarily suspended by the war, but in July 1920—almost simultaneously with the issue of a report by the Société de Pathologie Exotique in France—the Secretary for the Colonies sought recommendations from the Imperial Bureau of Entomology as to what line should be pursued as the result of the report. The Bureau referred the matter to its Glossina Subcommittee, which subsequently issued a report.

In criticising the methods of procedure in the two countries Professor Yorke threw out the suggestion that it should be the function of the Royal Society of Tropical Medicine to advise the Government on lines similar to those adopted by the Société de Pathologie Exotique in advising the French Government. He also referred to the different aspects presented by the problems facing the two governments in their respective colonies. In French Equatorial Africa the control of epidemics of Gambiense sleeping sickness called for energetic measures by such steps as the atoxylisation of the sick and infected, the removal of natives from infested areas, the clearing of harbourage for insects, and administrative precautions to supervise movements of porters and travellers; in the British colonies, on the other hand, there was at present no very serious epidemic, yet the question of trypanosomiasis of domestic stock presented a problem almost as important and difficult of solution as that confronting the French. In the report of the Glossina Subcommittee attention was drawn to the very wide range of tropical Africa covered by the distribution of tsetse-flies of the *Glossina morsitans* group, and to the effect of clearing of the bush offering harbourage for the flies. Reference was also made to their breeding-grounds and food, the destruction of the adult tsetse, to parasites and enemies of the fly, and to the influence of odours.

Professor Yorke claimed, however, that the subject of the inter-relationship of game, tsetse-fly, and the pathogenic trypanosomes of man and stock had been completely ignored by the subcommittee. He further challenged the chief recommendations made in the report on the ground of the complete inadequacy of the estimated cost and the lack of scope offered by the small numbers of experimental stations and staff which had been suggested, maintaining that such provision would prove entirely insufficient to deal with the many important problems bearing on trypanosomiasis. The elucidation of the various points raised called for organisation and equipment on a much more comprehensive scale. He laid stress in particular on the results obtained by Dr. Kinghorn and himself in the Luangwa Valley, and by the Royal Society Commission in Nyasaland, on the pathogenic trypanosomes of domestic stock, a subject which he regarded from the economic point of view as immeasurably more important in Central and South-East Africa than trypanosomiasis of man. The Conference on Sleeping Sickness held at Pretoria in March, 1920, had dealt with the question as to whether game really formed the main reservoir of the typanosome pathogenic to man, and had laid down certain drastic resolutions to prevent introduction of infection over the Zululand and Mozambique border, which necessarily interfered with the economic life of the community. Professor Yorke pointed out that these resolutions were based on the assumption that man constituted the main reservoir of *T. rhodiense;* whereas, if game played the chief part as intermediate hosts, action based on the proposed recommendations would undoubtedly prove futile.

Probable Identity of Human and Game Parasites.

He passed in review the evidence derived from the epidemiological and experimental observations, particularly of Taute, Huber, and Kleine in Portuguese East Africa, which the Conference at Pretoria had regarded as conclusive in proving that human and game parasites were not the same. He maintained that, on the whole, the evidence pointed to their being in reality identical—that man possessed a considerable degree of natural immunity to varieties such as *T. congolense* and *vivax*, likewise to *T. rhodiense*, and was not readily susceptible to *T. gambiense* unless the virulence of the latter became markedly increased. He was of firm opinion that game formed the chief reservoir from which *G. morsitans* drew the trypanosome pathogenic to man and domestic stock; the latter rapidly died when infected, whereas game being tolerant harboured the parasites for long periods without manifesting disease. He therefore urged the necessity of obtaining precise information as to the inter-relationship of game, tsetse-fly, and the trypanosomes pathogenic to man and stock by careful experimental elimination of game from prescribed districts, and referred to the unique opportunity for such investigation offered by a great game drive recently held in Zululand.

Professor Yorke concluded his paper with an emphatic criticism of the report of the Imperial Bureau of Entomology and advocated concentration of investigation under one central organisation in Africa, with a considerable increase of trained personnel and of funds to support the work of the Commission for the purpose of dealing satisfactorily and successfully with the many problems which call for solution in the study of trypanosomiasis.

Discussion.

The PRESIDENT dwelt on the necessity for early advance in the delayed schemes of investigation, particularly in Uganda, where the work remained almost at a standstill.—Dr. GUY MARSHALL and Major E. E. AUSTEN, members of the Glossina Subcommittee, firmly, and at length, refuted the validity of Professor Yorke's criticisms.—Dr. B. BLACKLOCK mentioned in detail the work that had been carried out on the shores of Lake Victoria Nyanza, and referred to the impracticability of game destruction for the control of trypanosomiasis.—Dr. A. G. BAGSHAWE drew attention to the French belief that in addition to the tsetse-fly the mosquito played a part in transmitting trypanosome disease.—Dr. G. C. LOW emphasised how complex and difficult were bound to prove attempts at solving the many points arising out of trypanosomiasis and the vexed question of game extermination.—It was unanimously decided that further discussion and Professor Yorke's reply should be adjourned to a subsequent meeting of the society.

SOCIETY OF SUPERINTENDENTS OF TUBERCULOSIS INSTITUTIONS.

THE quarterly meeting of this society was held on Oct. 18th, Dr. JANE WALKER, the President, in the chair.

Employment of Ex-patients on the Staffs of Tuberculosis Institutions.

Dr. ESTHER CARLING submitted a motion recommending the employment of ex-patients on the staffs of institutions for the treatment of tuberculosis. She pointed out that in addition to the benefit the ex-patients themselves derived from employment under the most healthy conditions, the institution itself benefited in getting first-class service and in the encouragement its patients had in seeing their fellows keeping their health while earning their living.

Sir HENRY GAUVAIN opposed the motion. It was the medical superintendent's first duty to cure his patients, and, to do that, to obtain the best and healthiest staff—a voluntary staff serving without any kind of compulsion. It

was not in the best interests of the patients, and the institution itself would not get full value for its money in employing ex-patients. He objected to any kind of moral pressure being brought to bear on ex-patients by the suggestion that it was in their best interests that they should take up this work. He doubted whether the work in a sanatorium provided the best surroundings for the ex-patients. There was a very grave danger of their being exploited by the institution, especially in the case of better-class persons of limited means.

Dr. JAMES WATT supported the motion. Ex-patients, if properly selected, were not in any sense invalids, and were quite fit for institution work. They gave more loyal, intelligent, and sympathetic service than non-tuberculous persons. They should be paid the standard rate of wages, but could not expect their employers to bear the cost of the extra sickness to which they were liable. It was undesirable to mix tuberculous with healthy staff.

Dr. W. C. FOWLER insisted on the staff, whether tuberculous or not, being of slightly better class than the patients themselves. This applied particularly to the industrial districts.

Dr. MARCUS PATERSON said the employment of ex-patients as domestics and on the outdoor male staff had worked very well at Frimley. There ought to be an interval of a year between discharge as a patient and employment on the staff.

The PRESIDENT thought heads of departments ought not to be ex-patients, but nurses and maids might well be. Where persons of impaired working capacity were employed it was impossible to pay standard wages, but the danger of exploitation was not a practical point. The ex-patient, instead of joining under moral pressure, usually begged to be taken on the staff. Employment of these people ensured a wide choice, and good character and capacity in those selected.

Dr. H. E. WATSON agreed that all the staff should be tuberculous or none, and in the former case argued that none of them should have tubercle bacilli present in their sputum.

On a vote the motion was carried, but only by a small majority.

Classification of Cases of Tuberculosis.

Dr. F. R. WALTERS opened a discussion on the classification of cases of pulmonary tuberculosis.

A good classification ought to provide accurate definition of groups which did not overlap, and should be based on facts which were not variable or open to dispute, and which were available without elaborate apparatus or difficult technique like radiography. It should be based on three of the factors which determine prognosis—namely, extent and severity of the local lesion, amount of constitutional disturbance, and presence of serious complications. Of these factors, the first or anatomical, should be the primary. The Turban-Gerhardt classification, as modified by the Local Government Board, was the best of the anatomical methods. This included miliary tuberculosis in the three groups, and did not distinguish between fibrosis and infiltration. But no purely anatomical classification was sufficient in making a prognosis, or in estimating results of treatment, hence the three anatomical groups should be subdivided each into three, according as the functional disturbance was slight, moderate, or severe. The degrees of constitutional disturbance were defined in terms of fever, nutrition, strength, digestion, and circulation, and along with these were taken for convenience the presence or absence of serious complications. The American classification was condemned because it mixed up anatomical and physiological factors together in its three groups. Sir Robert Phillip's system failed because it defined the physiological factors in comparative, not in positive, terms, with the result that no two people would classify cases alike.

Further subdivision of each physiological grade into three was advocated in order to estimate better the results of treatment, but this was deprecated in the subsequent discussion, taken part in by Dr. NIVEN ROBERTSON, Dr. PATERSON, and Dr. WATT. The question will be further considered at the next meeting.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

THE annual general meeting of the society was held on Oct. 22nd at 1, Upper Montague-street, London, W.C., when the new President, Lieutenant-Colonel F. E. FREMANTLE, M.P., was installed by the outgoing President, Professor H. R. Kenwood. The annual report of the council was received, which referred to the recent reorganisation of the society and the formation of four groups within it—viz., the Tuberculosis Group, the Naval, Military, and R.A.F. Hygiene Group, the Whole Time (Non-County) Medical Officers of Health Group, and the School Medical Group. It also recorded its appreciation of the services rendered by Professor Kenwood during his presidency, more especially in connexion with the reconstruction of the society, which now takes its place as the representative body of the whole public health medical service. Seventy-eight new members were elected.

Sir Arthur Newsholme, K.C.B., late Principal Medical Officer of the Local Government Board, was elected as an Honorary Fellow on the proposal of Professor KENWOOD and Dr. JAMES WHEATLEY.

Lieutenant-Colonel FREMANTLE then delivered the presidential address on Parliament and Public Health, in which he dealt with the share which should be taken by the members of the society, individually and collectively, in the government of the country. In public life it was important to have had a groundwork of the habits of mind of a medical officer of health. By our medical training we were taught successively to observe, to diagnose, to prescribe or operate, to supervise after-care and to check results, and deduce and publish our conclusions for future use. But as medical officers of health we had to apply this procedure to the machine of democratic government. The influence of medical officers of health on public opinion was indirect, subtle, hidden, but very great. The President reviewed the factors in the prevention of disease and laid stress upon the importance of sufficient rest each night, each week, and each year. True recreation of mind, body, and spirit was the only real rest. He also referred to the importance of mental hygiene. The concluding portion of the presidential address is given in full at the front of our present issue.

In proposing a vote of thanks for the presidential address, Dr. E. W. HOPE referred to the importance of the fact that they had a Member of Parliament as their president, and also to the desirability of a more complete centralisation of the medical work of Government departments.—Dr. HERBERT JONES, in seconding, also mentioned the advantage of the society being represented in Parliament and spoke of the help in this direction which had in the past been given by Sir Philip Magnus, M.P.

SCHOOL MEDICAL GROUP.

This group held its fourth annual meeting at the society's offices, 1, Upper Montague-street, on Oct. 23rd, when Dr. G. F. BUCHAN, school medical officer for Willesden, was elected chairman, pro. tem. School and assistant school medical officers attended from the North, Midland, and South of England, representing the London county, counties, county boroughs, and municipal boroughs. The minutes of the last meeting, held in June, 1916, were read and approved. The object of the group—namely, to obtain official recognition and representation on the council of the Society of Medical Officers of Health—having been obtained by the reconstitution of the society, new rules and constitution for the group were considered and adopted unanimously. The objects of the reconstituted group are:—

(*a*) To promote and safeguard the interests of all medical practitioners engaged in connexion with the medical inspection and treatment of diseases and defects affecting children of school age, and to secure closer coöperation with other departments of preventive medicine.

(*b*) To arrange meetings in London and provinces for reading and discussion of papers on clinical, pathological, and administrative problems in connexion with the diseases and defects of children, including clinics, special schools, domiciliary and institutional treatment, and educational schemes.

The rules admit of the membership of administrative school medical officers, whose experience of administrative difficulties will make them welcome to the discussions.

A representative group council of 28 eminent school and assistant school medical officers was elected. Two represent the L.C.C., 18 the county boroughs (14 of whom are devoted entirely to school medical work), 5 to county councils, and 3 the municipal boroughs. The group council will arrange meetings and organise

provincial subgroups, having similar objects, for any area, on the application of 25 members of the group. Subgroups have entire control over their meetings, and will elect one or more representatives to the group council.

Dr. George A. Auden, school medical officer for Birmingham, was elected president and representative of the group on the Council of the Society of Medical Officers of Health, and Dr. A. Ashkenny (Town Hall, West Bromwich) was re-elected honorary secretary.

TUBERCULOSIS GROUP.

The first ordinary general meeting of this recently formed group was held on Oct. 23rd at the National Institute of Medical Research, Mount Vernon, London, when Dr. HENRY A. ELLIS presided over a large attendance of members of the group.

Dr. LEONARD HILL gave a paper on

Open-air Treatment and Metabolism.

The principles underlying these questions, of such importance to the worker in tuberculosis, were clearly and concisely expounded, and the actual instruments and apparatus employed in the determination of the data upon which the principles are based were shown in actual operation, rendering the lecture doubly interesting and instructive. The routine use of the kata-thermometer in some simply controlled, even automatic, form for the continuous registration of the cooling power of the air in school-room and factory, and the attainment of as nearly ideal conditions as possible for the performance of both manual and mental labour in accordance therewith, was foreshadowed by Dr. Hill, who exhibited an almost fool-proof instrument for the purpose, consisting merely of a metal container with a chimney, in which the bulb of the thermometer is suspended and centred, giving continuous readings, the whole kept warm and dry by an 8 candle-power lamp placed in position at the foot of the apparatus. The lecturer emphasised the fact that there is no chemical impurity in expired air to which the ill-effects of overcrowding and inefficient ventilation can be attributed, and that these can be wholly remedied by increasing the movement and cooling power of the air. There exists a high degree of correlation between the cooling power of the air as recorded by the kata-thermometer and the heat production of the body.

The garden city came in for warm commendation on the part of the lecturer, who thought it was not difficult to foresee the end of the British Empire if people continued to huddle themselves together into ever-extending cities, with their slums, tenement houses, tea-shops, and kinemas, instead of living under ideal conditions in the open air, producing their own requirements in the matter of food, vegetables, milk, and vitamines, and so building up the foundations of a future virile race.

The PRESIDENT moved a vote of thanks to Dr. Hill for his lecture and related certain personal experiments he had carried out in Australia to neutralise the evil and not infrequently dangerous effects of the great heat encountered there. He was of opinion that the skin was the source of the antibodies manufactured in tuberculosis, and that there was a more intimate relationship between the skin and tuberculosis than had hitherto been realised.—Dr. MARCUS PATERSON seconded, and called attention to an interesting point, that the cool, fresh days in the sanatorium were those when the patients ate every scrap of food in the institution, so great was the effect on their body metabolism.—Dr. F. R. WALTERS mentioned that patients otherwise in good physical condition might suffer from night-sweats, and usually did badly, while, on the other hand, patients in whom no active tuberculosis could be found might suffer severely from sweats.

In replying to the vote of thanks Dr. HILL referred to a series of experiments which he hoped to undertake in the coming summer at Alton on the effects of pigmentation, both naturally induced and artificial, in tuberculous children, and supported Dr. Ellis's view that the skin was associated with the production of antibodies in tuberculosis. He thought, too, that the beneficial effects of exercise and graduated labour in the treatment of phthisis were due not alone to auto-inoculation but possibly in some measure at least to the cooling power and movement of the air and their influence on the body metabolism.

Reviews and Notices of Books.

SURGERY.

A Text-book by Various Authors. Edited by GEORGE E. GASK, C.M.G., D.S.O., F.R.C.S. Eng., and HAROLD W. WILSON, M.S., M.B. Lond., F.R.C.S. Eng. London: J. and A. Churchill. 1920. With 39 plates and 467 figures in the text. Pp. 1232. £2 2s.

MANY of us remember "Little Walsham" with gratitude from our early days; such a family history is likely to produce a strong descendant, and we find the volume now under review to be thoroughly worthy of its ancestry. Having gone through a useful generation as "Spencer and Gask" the re-birth has now taken place at St. Bartholomew's and the offspring has the advantage of 2 fathers and 15 godfathers, who contribute to its excellence. We are impressed not only with the completeness of this volume, but with the excellent balance of the articles by different writers. Each section is handled with the strength and accuracy of the expert, while the editors have succeeded in evading that common pitfall in books of composite authorship—inequality of standard.

As a text-book for the medical student who usually owns but one book on surgery apart from its special branches, what are its merits and demerits? In the first place, it is encyclopædic in that it contains an account, in some cases necessarily brief, of nearly every surgical lesion. In the case of all the commoner ills amenable to any form of remedy the course of the disease and its treatment are given clearly and with decision. In most sections the descriptions are graphic and reach a high level. From this point of view the book is one for a student to know from cover to cover, and one he may well keep in general practice as a book of reference. The only drawback of such a categorical description of disease is that it does not lend itself easily to teaching methods, and requires supplementing by lectures and systematic bedside teaching. Its very completeness might be a stumbling-block to a man rather below the average, as his mind is apt to be obsessed by a multiplicity of surgical entities which he never sees. But as these remarks might be made about any systematic text-book, they must be regarded as general observations rather than as criticisms.

The section on General Surgical Pathology is eminently practical, and makes a strong point of the relation of bacteriology to surgery. Many modern methods of examination are introduced which give life to a subject where in many text-books slumber is encouraged. In the section on General Surgery wounds and all that pertains to them are dealt with. The detailed instructions for operative asepsis are admirable except that we should like to have been told that masks are essential for all, and not only for those with any chronic infective condition in the nose and mouth. Among all other necessary details it is good to see proper instructions for the posture of the patient on the table, for on this point extraordinary ignorance is displayed both by practitioners and nurses. The classification of antiseptics with their value and want of value is well set forth, but it would have been an advantage if the actual standard strengths had been stated in every case. This applies to the absence of a formula for "bipp," and of the strength of potassium permanganate solution or of the alcoholic solution of picric acid; the latter has to be looked up under the treatment of burns or on p. 155 under "details of operation." Surely it is a slip to say that 1 in 80 carbolic acid may be used for the rapid sterilisation of instruments.

In an excellent chapter on Shock the writer has wisely refused to be drawn into controversy on the theory of shock, but gives us most of the recent scientific facts, and pieces them together very ably. We could have wished for some account of how primary shock or initial collapse merges into secondary shock; an excellent picture of the latter is given, but it is the picture of a patient lying in a hospital ward, and omits the events leading up to it which are all-important to the practitioner. The section on the Surgery of the Brain

and Nerves is clear and convincing, and contains much that is valuable for teaching purposes. The same may be said of that on Fractures; clear principles and modern methods have taken the place of time-worn antiquities. Injuries and Diseases of the Spine are dealt with efficiently; in regard to the paralysed bladder the writer usefully and honestly sets forth the relative disadvantages of catheterisation, suprapubic drainage, and "expression." There is much that is interesting in connexion with the account of the Surgery of the Thyroid, and its treatment is clear and concise. We cannot say the same of Tuberculous Lymphadenitis of the Neck; the writer tells us nothing of milk infections, and his treatment is far from convincing. The impression it leaves is that from his standpoint a Fabian policy is the only one worth considering, and that (as he and all agree) must frequently end in either suppuration or an operation of some magnitude.

The chapters on the Surgery of the Abdomen are lucid and adequate, even if all too brief. A curious omission is any account of the operation of gastro-enterostomy, although it is often mentioned in its place as the proper treatment. True, this text-book does not undertake to teach operative surgery; but space is found in its appropriate chapter for an account of abdomino-perineal excision of the rectum which many surgeons do not perform with noticeable frequency. An interesting table of mortality in appendicitis is given, and much may be learnt from it; more still might be learnt if the number of days that elapsed before operation were given. Owing to the well-known procrastination of hospital patients these must have been numerous and would afford an extraordinary object-lesson. Many useful diagrams and illustrations are found in the excellent sections on Diseases of the Rectum and Urinary System. We notice no mention of continuous dilatation of urethral strictures which we believe to be safe and easy in clean hands. Another help to the house surgeon would have been a method of checking hæmorrhage after prostatectomy with a catheter and tampon. The more special sections on diseases of the eye, ear, and deformities reach the high standard necessary to the well-equipped medical student. It is to be regretted that the writer on surgery of the eye does not mention the routine treatment of ophthalmia neonatorum adopted with such success by the Metropolitan Asylums Board.

The whole book is illustrated, bound, and printed in a way that makes for pleasurable reading. There are very few misprints, and of those, two of them (on p. 370, line 17, and p. 825, line 46) are quite amusing. The suggestion of omissions and other criticisms seems to savour of ingratitude and is a thankless task we willingly forgo, since the text-book is an all-round accomplishment of which St. Bartholomew's and the editors may be justly proud.

VITALISM AND SCHOLASTICISM.

By B. C. A. WINDLE, M.D., F.R.S. London: Sands and Co. 1920. Pp. 356. 8*s.* 6*d.*

THE author's avowed intention is to explain the position assumed by the scholastic philosophers in the conflict between vitalists and antivitalists. The living interest of mediæval thought on this particular topic may readily be doubted, and an examination of the third chapter which purports to expound "the scholastic position" will do little to convince anyone that discussion of the question is likely to be fruitful. What positions the scholastics did or did not take up with regard to the relations between knowledge, faith, and reason cannot possibly be discussed in a dozen small pages, and the author can have little ground for complaint if he fails to persuade the common man that scholastics really did not believe in authority as a source of knowledge, by short quotations from two ancient and one modern writer. For that is the crux of the question. People who want to know nowadays are not prepared to listen unless they are assured that the teacher is ready to go anywhere his intelligence may lead him, and, as a necessary corollary, to throw authority overboard. They are not assured, and the present trivial treatment will do nothing to assure them, that scholastic philosophers and their modern exponents in the Roman Church can satisfy these conditions. Principal Windle entirely fails to remove the suspicion which attends his point of view by copious quotation from a galaxy of "authorities"; he is a better guide to Thomas Hardy's country. There is a large and increasing number of earnest minds who will heartily agree with his main conclusion that the "remarkable characters of living matter cannot be adequately explained in terms of chemistry and physics." It may be because their reason has led them to that conclusion, or it may be that this has been the particular personal message revealed to them by a higher power, but it is not because someone else has told them so. "Credo ut intelligam" may well be the motto of a man who has received a revelation, but it must not be a second-hand one.

INJURIES OF THE PERIPHERAL NERVES.

By HENRY S. SOUTTAR, C.B.E., F.R.C.S., and EDWARD W. TWINING, M.R.C.S. Bristol: John Wright and Sons, Ltd. 1920. Pp. 152. 18*s.* 6*d.*

THIS book is the outcome of several years special experience of gunshot injuries of the peripheral nerves during the war. It is divided into 24 chapters, half of which deal with treatment, the remaining half being devoted to considerations of morbid anatomy, methods of examination, clinical results, diagnosis and prognosis. Of 30 illustrations, all except four depict the operative treatment or surgical anatomy of the nerves. This uneven distribution rather spoils the otherwise well-balanced arrangement of the chapters. The great importance of nerve injuries and their dominating position among factors which may cripple a limb are duly emphasised. The authors hold the orthodox views on nerve regeneration, of which a clear and concise account is given. A valuable chapter is that dealing with the period of preparation, as pre-operative treatment has hitherto received too little attention, and during the early years of the war was often neglected with disastrous results. Describing the technique of nerve suture they write: "The tension suture is now drawn tight, so as to press the cut ends firmly together." Apart from the desirability of dispensing with the tension suture, there is evidence that regeneration occurs more rapidly and completely when there is a minimum amount of contact between the divided ends or even when the ends are a little apart.

In the chapter on prognosis the authors rightly discriminate between regeneration of a nerve and functional recovery, and dwell on the extreme importance of the mental attitude and personality of the individual. The questions of the usefulness of nerve grafting, flap operations, and nerve anastomosis are briefly dealt with in the chapter on difficult sutures. Recovery by means of a graft, with the possible exception of an autogenous graft, is regarded as quite out of the question, though they appear to have had some success with the flap method. Under the name "anastomosis" they describe several different operations including that of double lateral implantations, an arrangement which is somewhat confusing. This chapter would seem to indicate that the authors, while going a little further than the majority of the English school, have not finally made up their minds as to how far these operations may be useful. In this respect it is interesting to contrast the views of the French school as expressed by Mme. Athanasio-Benisty in her manual "Les Lésions des Nerfs." As an adjunct in treatment the whirlpool bath is spoken of with enthusiasm, and the chapter on exercises reflects a well-thought-out system of re-education, based on the essential point that the individual should be taught to make all possible use of the limb by his own efforts.

This book is clearly the result of first-hand experience and much thought on the part of its writers. It contains good common sense and sound teaching, and may safely be put into the hands of anyone who is called on to treat these injuries without previous experience, while it is well worth perusal by experts.

A HOSPITAL LETTER-WRITER IN FRANCE.

By MAY BRADFORD, O.B.E. London: Methuen and Co. 1920. Pp. 108. 5s.

THIS is a charming and unassuming little book, wherein the tear and the smile are close together. The author is the wife of Sir John Rose Bradford, who joined the army in 1914 as consulting physician to the B.E.F., while at the shortest interval possible Lady Bradford followed him to undertake work in the service hospitals. She became a letter-writer for the sick and wounded, and this little book is a record of how her work was carried out. As she explains, letter-writing meant a great deal more than just sending greetings from the patient to his relations or friends; it included an accurate medical report of the condition of the patient at the time of writing, and a careful record had to be kept giving the patient's regimental number, rank, name, initials, next of kin, full address, nature of wound or illness, and his general condition. Though an authorised letter-writer, Lady Bradford was in no sense an official, and this made an enormous difference in the attitude of her clients towards her, and in no better way is this shown than by the fact that her usual title was "Tommy's Little Mother." Some of her experiences were extraordinarily pathetic, others comic. Both will be familiar to those who have worked in large hospitals, civil or military, where the uncomplaining behaviour and endurance of those men who are badly wounded by the countless accidents of hard life strike their attendants with admiration. On the comic side we must quote one of Lady Bradford's reminiscences: One day a man said to her regarding the French language, "If you go into a Just-a-minute (i.e., estaminet) and say 'mercy boco' they know you mean whisky." In present-day conditions it would seem as though we had forgotten the lessons of the war, the unselfishness, the bravery and the endurance of those who fought or worked to give us victory. It is good to read such a book as that before us, for it may serve to call to mind that all of us should work to keep the inestimable gift of freedom won for us across the water.

SCHOOL HYGIENE AND THE LAWS OF HEALTH.

A Text-book for Teachers and Students in Training. Fifth edition. By CHARLES PORTER, M.D., B.Sc., M.R.C.P. Edin. London: Longmans, Green, and Co. 1920. Pp. 361. 6s. 6d.

THIS excellent manual has been brought up to date in a fifth edition. Teachers and students in training colleges, health visitors, and school nurses will find it invaluable. Simple outlines of normal anatomy and physiology are given with associated defects. In connexion with respiration there is an interesting chapter on speech defects including "stammering," though the treatment recommended for this distressing affliction is open to argument. Venereal disease is included among the infectious diseases, and is simply and clearly explained. The author has also gone carefully into the signs and effects of over-strain in children, and deals at length with the subject of prevention of fatigue, a thorough knowledge of which is essential for those in charge of young children. In the chapter on diet the value of vitamines is emphasised and school hygiene as a whole is effectively and simply dealt with.

THE ORIGIN AND EVOLUTION OF FREEMASONRY.

Connected with the Origin and Evolution of the Human Race. By ALBERT CHURCHWARD, M.D., M.R.C.P. London: George Allen and Unwin, Ltd. 1920. Pp. 239. 12s. 6d.

THE late Sir Robert Ball had a delightful story which he used to tell in his own inimitable fashion of a foreign professor who gave a six months' course of lectures upon inflammation, and who treated his subject with such laborious thoroughness that the opening half dozen lectures were devoted to the consideration of the Nebular Theory. Dr. Churchward does not begin his study of the evolution of Freemasonry at quite so remote a period, but he does begin with a matter which at first sight has no conceivable bearing on the subject—namely, the Periodic Law of the Corpuscles, by which name he calls electrons. These, he says on p. 83, "are God's little bricks with which He builds the Universe." Moreover (p. 44), the Divine Creator formed the Periodic Law "to govern and carry on the evolution and devolution of the Universe." Knowledge of and obedience to the Periodic Law, together with a Universal Brotherhood of Freemasonry combined are, he considers, the only effective means for promoting peace throughout the world. Universal Brotherhood, however, does not include all members of the craft—for example, Germans and others (p. 229). Besides the excursions into psychological physics Dr. Churchward has much to say about the wisdom of ancient Egypt, and the sign language and mysteries of that remarkable land. From the Stellar Cult people of Egypt, who were the builders of the primary temple at Edfu and also of the Great Pyramid, came, he claims, the origin of the mysteries of Freemasonry. The original Operative Masons were a clan called the Ari, to which was entrusted the building of the temples.

We wish that Dr. Churchward had told us some more about these Operatives, "who spread throughout the world wherever the Stellar Cult people settled, and afterwards with the Solar Cult people," for the mystical and esoteric basis of architecture is a most interesting study, and there is but little literature upon it for the general reader. In fact, we know only of one book and that a scarce work—namely, Professor Lethaby's "Architecture, Mysticism, and Myth." But apart from the connexion of electrons with universal peace, Dr. Churchward's book contains a vast amount of information which will interest those who care for the traditions of their fathers.

DAS MENSCHLICHE GEHIRN.

Third edition. By Dr. R. A. PFEIFER. Leipzig: Verlag v. Wilhelm Engelmann. 1920. Pp. 124.

THIS book is evidently intended less for medical anatomists than for students in the departments of psychology of the higher schools. For these it would appear to be an excellent manual. It has enjoyed considerable success in Germany. The description of the general structure of the brain and, so far as it goes, of the detailed structure, is simple and clear. The greater part of the book is taken up by considerations of functions, more especially of speech and sight, and clinical observations here are utilised by the author. We observe that the teaching would not in certain ways be considered up-to-date over here. For example, the author's conception of the "affenspalte" is not that now accepted in this country, and in the consideration of aphasia no mention is made of Pierre Marie's views, though these fit in so well with clinical observations. But, notwithstanding these criticisms, we consider this book an excellently clear account of the general anatomical and functional bearings of an intricate theme.

SURGICAL NURSING AND TECHNIQUE.

Third edition. By C. P. CHILDE, F.R.C.S. Eng. London: Baillière, Tindall, and Cox. 1920. With 98 figures. Pp. 237. 6s.

Mr. Childe's work is a statement of the methods he pursues rather than a text-book on surgical nursing and technique. The text does not read smoothly and contains redundancies, and we think the practical value of the book would be enhanced by the elimination of irrelevant matter and a clearer and more concise definition of surgical terms. The instructions on the preparation of instruments previous to operation are open to criticism. Few surgeons now boil their knives, scissors, and needles, whereas it is perfectly legitimate to use sponges more than once if adequate precautions are taken to render them aseptic. The chapter dealing with the selection of instruments for operation is the most convincing, and the figures illustrating the text are excellent, but the author takes an optimistic view of the cost of equipping an operating theatre in a nursing home. Mr. Childe's appreciation of the modern surgical nurse and his plea for shorter hours, more adequate pay, and the amelioration of the conditions of work will meet with general approval.

THE LANCET.

LONDON: SATURDAY, OCTOBER 30, 1920.

The First Medical Report of the Ministry of Health.[1]

DURING the week the Annual Report of the Chief Medical Officer to the Ministry of Health has been published, being the first annual medical report of the new Department. Presumably the shape adopted will be that followed in subsequent issues, and though it may be a minor point to select for first praise in dealing with so important a document, we may mention at once that we find the format and arrangement extremely convenient. A general introduction from Sir GEORGE NEWMAN indicates the organisation within the Ministry, showing how the medical work is coördinated with the work of other Departments. This is to some extent to state the arguments for the foundation of the Ministry of Health, which was not, as doctors know, a new thing, but, in true British spirit, a survival of what was best in many past activities, these activities being enlarged and redirected in object, and, in particular, arranged at one centre, thus obviating the waste, embarrassment, and disappointment associated with multifarious different and overlapping organisations. There has now been transferred to the Ministry of Health the powers and duties in respect of public health of the Local Government Board and the Insurance Commissioners, and those of the Board of Education with respect to the health of expectant and nursing mothers, and children below school age. The medical inspection and treatment of children and young persons under the Education (Administrative Provisions) Act, 1907, as recently extended and amended, also fall under the scope of the Ministry, as well as the powers of the Privy Council under the Midwives Act, and those exercised by the Home Secretary under Part 1 of the Children Act, 1908. As later there may be, or have been, transferred to the Ministry some of the health duties of the Ministry of Pensions, and those of the Home Office in relation to lunacy and the mentally deficient, the Ministry has a vast scope.

Along these various lines Sir GEORGE NEWMAN analyses his official work in respect of the general health of the people, basing his conclusions on statistical information. He explains the part to be played by the general practitioner under a national system of preventive medicine, and describes what the Ministry is doing in respect of maternity, child welfare, and the control of infectious disease. His clear and informing statement concludes by a visualisation of the responsibilities that must fall upon the Ministry of Health not only as an Imperial but as an International health office. International health questions cannot be restricted to epidemics or to diplomatic agreements regulating quarantine or providing against infections; and the League of Nations may be called upon to play a world-wide part when the health bureaux of all the covenanting Powers coöperate, as they will be expected to do, in a joint sanitary crusade. For, as the Chief Medical Officer points out, international agreement on many questions in the labour world will depend on a proper conception and presentment of the health issues involved. The organisation of medical work within the Ministry has led to the division of that work under six main headings, and Sir GEORGE NEWMAN'S general statement is followed by sub-reports from the Senior Medical Officers of these six departments—namely, General Health and Epidemiology (Dr. G. S. BUCHANAN); Maternity and Child Welfare (Dr. JANET CAMPBELL); Tuberculosis and Venereal Disease (Dr. F. J. H. COUTTS); the Supervision of Food Supplies (Dr. A. W. J. MACFADDEN); General Practitioner Services (Dr. J. SMITH WHITAKER); and Sanitary Administration in Relation to Infectious Disease (Dr. R. J. REECE). Dr. BUCHANAN'S report on international health work and the recent European epidemics will be read with great interest as bearing directly on the importance of coöperation between all governments in relation to health measures. This section is directly explanatory of the part which the Ministry may be called to play in the promotion of world hygiene. Dr. BUCHANAN provides us within some 20 pages a revealing account of international health work, and all our readers should make themselves acquainted with the proposals which have been made, and which are here included, for a health wing of the League of Nations. What those proposals, if realised, may mean to the world is well illustrated by the story of the incidence of typhus and other infectious diseases in Russia and Central Europe during the past 15 months. We published in THE LANCET a year ago[2] a report on the situation as it was revealed to an International Medical Committee, consisting of Dr. HUGH S. CUMMING, Director-General of the United States Public Health Service, Dr. VISBECQ, of the French Service de Santé, Professor ALDO CASTELLANI, and Dr. BUCHANAN. The information and lessons contained in that report refer to only one of a group of countries in Central Europe, whose public health may affect the destinies of the surrounding peoples; but epidemics cannot be limited by political frontiers, and all our readers will endorse the policy of the Ministry of Health in making the study of international medicine an urgent part of the official duties.

The Report concludes with a series of appendices, and here, again, the far-reaching nature of the work that is being undertaken by the Ministry is well illustrated, for the information supplied along varying lines by these appendices is of great general and pathological interest. But our medical organisation at home might well have received fuller notice, and no doubt would have obtained it had not the work been mostly of too recent a date to produce results whose record would have been definitely helpful. But the Report indicates briefly what has been done to help the medical profession to become a solid, coherent, preventive service, the work of the general practitioner coming at once into relations of an intimate sort with the central bureau. The general practitioner must always be the executive officer in a State scheme of medicine, both along preventive and curative lines, and in order that he should play that part with satisfaction and utility, his professional position must be made secure. With this object the Ministry of Health has freely revised panel practice, but much remains to be done, and this Sir GEORGE NEWMAN recognises. He says that the full value of a vast scheme of national medical treatment cannot be secured unless the

[1] Ministry of Health: Annual Report of the Chief Medical Officer, 1919-1920. London: His Majesty's Stationery Office. 3s. 6d. net.

[2] THE LANCET, Oct. 25th, 1919, p. 748.

medical practitioner, instead of being an agent for the treatment of obvious disease, recognises and handles it in its early stages, and becomes also a missionary of personal hygiene in its preventive aspect. And he admits that for this to come about there must be improved education, graduate and undergraduate, and an extension of the facilities for diagnosis and treatment. Here the declaration of policy on the part of the Ministry with regard to the hospital question, which was made by Dr. ADDISON to a meeting, convened on Tuesday last by the Parliamentary Medical Committee, supplements the Report of his Chief Medical Officer very appropriately. The Interim Report of the Consultative Council on Medical and Allied Services laid great stress on the need of hospitals, both to minister to the sick and to act as centres for the local medical profession, and obviously hoped that the voluntary system would meet the case, if duly supplemented by the State; independent investigations have confirmed the shortage in beds throughout the country; and in impending legislation there is a provision enabling hospitals to be put on the rates. Dr. ADDISON told the Parliamentary Medical Committee that it would be a disaster to the country if the generosity and enterprise represented by the voluntary system were lost, but that more than one half of our total of beds was already supported by State or rate aid, so that a permissive clause allowing freedom of action to communities becomes logical. The whole matter will be debated at the Conference called for Friday, Nov. 5th, at the Council Room of the Medical Society of London, when it will become clear that the work of the Ministry of Health in connexion with hospitals had not reached any stage which could be made the subject of a definite Report. After all, it is the business of a report to report and not to prophesy.

Constitutional Trade-Unionism.

FOR some years past there have been signs of movements within the British Medical Association corresponding to that of the shop-stewards movement within the orthodox trade-union. In either case they may betoken healthy activity. In 1918 and 1919 conferences of the official representatives of insurance practice were of a highly controversial and even heated character, the gatherings by no means always accepting the advice and guidance of their officers. Nothing of this sort was apparent at the Conference of Representatives of Local Medical and Panel Committees which took place on Oct. 21st, at the Memorial Hall in Farringdon-street, London. At this Conference Dr. H. G. DAIN, of Birmingham, was re-elected chairman in token of approval of his previous two years' service and the members of the Insurance Act Committee were entertained at a dinner given by the delegates to the Conference in the evening, when Dr. H. J. CARDALE, chairman of the London Panel Committee, presided, and there was a lively exchange of good feeling. Suavity in debate is of course a cherished tradition of our public life, but it was more than good manners that made the 1920 Conference harmonious. In the words of one of the papers tabled at the Conference, there was a feeling "that the prospects for the future are so bright" as to render strife unnecessary.

Nevertheless, the constitution of the Insurance Acts Committee did come up for discussion on the sturdy motion of a North country committee to abolish it altogether and to substitute in its place a central body composed entirely of nominees of panel committees. The London Panel Committee, as may be seen from our news columns, had adopted resolutions to the same effect. According to its present constitution six members of the Insurance Acts Committee are elected by the annual Representative Meeting of the B.M.A., 18 members are directly elected by grouped local medical and panel committees on the basis of 1 representative to about 1000 panel doctors, 4 members represent outside bodies—namely, the Medical Women's Federation, the Society of M.O.H.'s, the Poor-law M.O.'s Association, and the Hospitals Committee of the B.M.A. It may be here recalled, a fact often lost sight of in controversy, that the decisions of the Insurance Acts Committee are not subject to the veto of the Council of the B.M.A. One-third of panel practitioners are in fact not members of the B.M.A., and conversely one-third of the members of the B.M.A. are not in panel practice. While, therefore, the B.M.A. is already largely representative of the medical profession as a whole, the Insurance Acts Committee is representative in a still higher degree. Owing to a flexible constitution, which is still being amended, this committee may be regarded as having established itself firmly both among medical men and at the Ministry of Health as a judicial and judicious negotiating body in medical insurance practice. Its chairman, Dr. H. B. BRACKENBURY, gave it clearly to be understood at the dinner that the committee in its negotiations with the Ministry of Health is determined not to take up an intransigent attitude, but rather to assist in getting at the truth, while it always kept in view the fact that it represented interests broader than those of insurance practitioners.

The most contentious issue of last year, the waning capital value of panel practice, was dealt with at the Conference by the simple expedient of reiterating the desire to return to the status quo antea, a resolution being unanimously carried asking for the restoration of the old regulation in this regard. If restored, two undertakings will be given to avoid abuses which had crept in in the past. Insured persons automatically transferred would be allowed the option of changing their doctor within six months, and no panel practitioner would be entitled to resell a transferred panel practice within two years without producing a satisfactory reason to the Insurance Committee. This procedure shelved any discussion of the important schemes for the maintenance of the capital value of a practice on death or other vacancy, worked out in London, Dartford, and Brighton. All these schemes anticipate, what, indeed, seems to us inevitable, a depreciation in the selling value of an insurance practice as time goes on, and this from natural causes rather than ministerial malevolence. Dartford's scheme follows that of the London Panel Committee in being compulsory, and implies the coöperation of all the practitioners in an area. The Brighton scheme is designed to achieve the same result on a voluntary basis. It may be hoped that at some not far distant day the necessity for any one of these schemes may be removed by the insertion of a pension clause in the practitioner's agreement. Marketable goodwill is an asset to those who possess practices, but it does not assist in drawing the best kind of practitioner into insurance work, in so far as it makes the possession of some residual means after qualification a condition of entry rather than the possession of brains and energy. On the equitable solution of this question depends the complete pacification of the insurance medical service.

Annotations.

"Ne quid nimis."

A MEMORIAL TO VICTOR HORSLEY.

A MEETING of the committee who are organising this memorial will be held at 1, Wimpole-street, London, on Wednesday, Nov. 3rd, at 5 P.M., when the exact form of the memorial will be decided and an executive committee appointed to carry out the decision.

The tragic circumstances of Horsley's untimely death, while on service in Mesopotamia, are still fresh in remembrance, and though the absence of many medical men on war service has prevented an earlier movement, it is not too late—indeed, it can never be too late—for the recognition in a permanent form of his life and work. He was one of the most noteworthy students of University College Hospital, a very distinguished medallist and graduate of the University of London, and a leader and first chairman of the Representative Meeting of the British Medical Association. He was a pioneer in the research work connected with the surgery of the brain and nervous system, the causation and treatment of myxœdema, and as secretary of the Commission appointed to inquire into the value of Pasteur's method of treating rabies, his investigations at the Brown Institute were of the utmost value as proving the possibility of stamping out rabies in Great Britain. Outside his strictly professional work there was scarcely any subject affecting the moral and physical welfare of the nation in which he was not actively interested. Those who inaugurated the movement for the memorial describe him as "a strenuous fighter, firm in the belief of the truth of his own convictions, and often in conflict even with his best friends." Undoubtedly he took action sometimes which alienated his colleagues from him, but, nevertheless, very many of those whom he thus placed in opposition to him are anxious that misunderstandings should be forgotten, and that the sterling qualities of the whole-hearted student and unselfish worker should alone be remembered.

The exact form which the memorial should take is still open, but it has been suggested that the most appropriate monument to Horsley's memory would be the institution of a Horsley lectureship, the Senate of the University of London acting as trustees. Sir W. Arbuthnot Lane and Mr. Edward Domville are acting as Honorary Secretaries to the movement, and all communications should be addressed to Mr. E. J. Domville, O.B.E., Symondsbury, Bridport.

THE RE-EDUCATION OF THE MUTILATED IN FRANCE.

Senators Henry Chéron, Manger, and General Hirxhauer have introduced in the French Senate a Bill for the purpose of extending to the civil population the advantages secured to the wounded in war. A special commission has studied the proposal, and M. Guillaume Poulle has prepared a report, so that the matter may be pressed forward without loss of time as soon as the legislature reassembles. The object is to preserve and extend for the benefit of the whole nation the wonderful results, the knowledge, and the skill acquired during the war in orthopædic practice. What is called the "re-education" of injured and even of the remains of a partially amputated limb has given unhoped-for results. Many workmen and artisans have thus been enabled to return to their former occupations and can once more earn their living instead of living on pensions or on charity. It is therefore proposed that special clinics should be established, in connexion with the medical faculties, to preserve and extend the knowledge acquired in treating the wounded. These clinics are to be open not merely to medical students, but to artisans and instrument-makers concerned in making any sort of artificial limb for the wounded. It is now established that those who have lost both hands can nevertheless be taught to cut up and eat their food and even to shave themselves without assistance. According to the French law of April 2nd, 1918, any military man can claim to be treated for the re-education of his injured limb, so that he may return to his former work. What was learnt and achieved under the stress of the war, it is urged, must not be lost, but its benefits systematically extended to the civil population, and the experience acquired at the cost of so much suffering be gained for national use. There are many accidents and limbs lost even in the piping days of peace.

THE PSYCHOGALVANIC REFLEX.

A RECENT number of *Brain* contains a review by Dr. E. Prideaux, of Cambridge, on the difficult subject of the psychogalvanic reflex, and it includes much that is worthy of general consideration. It has been known for a long time that when two non-polarisable electrodes are attached to asymmetrical parts of the body and connected up with a galvanometer, the latter instrument registers certain electrical changes in the body associated with emotional reactions. A similar phenomenon can be obtained when an external current is used. Further, it is now fairly generally recognised that any stimulus giving rise to an emotion will cause a deflection which seems to be proportional to the subjective state aroused. Apart from obvious physical causes of deflection, such as alterations in contact between the skin and the electrodes, and from physiological causes such as deep inspiration—a cough, a yawn, or a sigh—the worker on the subject soon comes to recognise the genuine nature of the needle movement in response to stimuli of a definitely psychical nature. Yet the causation of the phenomenon is extremely complex, and some of the hypotheses put forward to explain it are largely speculative. For a long time the supposition was general that the psychogalvanic reflex merely indicated diminution in the resistance of the skin or of the body, and Dr. Prideaux brings forward evidence to show that there can be little doubt of the genuineness of this change. Bodily resistance, however, can be shown to be negligible. The most recent research points to the polarisation of the skin as the chief factor in the production of the reflex. Among the causes assigned for this polarisation have been such factors as unconscious muscular movement, changes in the capillary circulation, respiratory changes, changes in the sweat glands, nervous excitation and biochemical alterations in the skin, or any combination of these. Dr. Prideaux has examined each of these factors in turn and comes to the conclusion that, while muscular, vaso-motor, respiratory, and secretory changes may accompany emotional reactions, no one of them is exclusively responsible for the psychogalvanic reflex; his decision is that the probable cause is to be sought in biochemical changes in the skin, presumably the result of nervous excitation.

Interesting as is the physical and physiological side of the reflex the general medical reader will find the psychological side of the subject of no less interest. There seems now to be little doubt that the reflex will prove of value in the differentiation of functional from organic disease. Thus: where there is cutaneous anæsthesia, as in tabes or syringomyelia, of organic origin, no psychogalvanic reaction is indicated by the instrument as long as the stimuli are not appréciated subjectively by the patient. On the other hand, stimuli in skin areas where the anæsthesia is purely functional always give the galvanic reaction; Dr. Prideaux has even used the reflex successfully in distinguishing between a functional amnesia and an organic one. He also gives it as his experience that the reflex is the only trustworthy test to decide whether a case of deafness is purely organic or not. Those who have had experience of the great diagnostic difficulties presented by the subject of deafness will realise how welcome a reliable test is likely to prove. Further, the intensity of the reflex seems to be in inverse proportion to the visible signs of emotion; otherwise expressed, the more obvious the emotion as far as its external expression is

concerned, the less is the response on the galvanometer. Hence, where emotional ideas are repressed their stimulation in the subconscious or unconscious mind will also produce a reaction. This has been definitely shown by Morton Prince, Peterson, Jung, and others; in fact, these and other observers are coming to the conclusion that the galvanic phenomenon may give clear evidence of the existence of unconscious "complexes." In other words, it is a "complex"-indicator. When, in the familiar word-association test, the reaction-time is prolonged, all are agreed that this prolongation is indicative of the awakening of an emotional state; but, if what Dr. Prideaux maintains is corroborated by further experience, the psychogalvanic reflex will be found to be even more delicate and correct than the reaction-time test. Some space is also devoted to the question whether there is any correspondence between intellectual development and the quality and quantity of the psychogalvanic reflex, and the general conclusion is come to that the reactions are not so marked in subjects of poor intellect as in those of greater intellectual attainment. The last step would naturally be the application of the method to diagnose forms of mental disease, in particular the psychoses, and several workers have recorded their observations in this connexion. As yet sufficient data have not been gathered for a pronouncement on this part of the question, but there would seem to be little doubt that the psychogalvanic reflex is a valuable objective sign which may help to elucidate many unsolved problems in psychological medicine.

THE TOXICITY OF ALCOHOLIC LIQUIDS.

THE question of the effects of alcohol on the human organism is again approached in a recent report issued by the Medical Research Council, and in certain directions the results recorded in previous reports issued by the same authority are confirmed. The experiments described in this latest report include not only the examination of the effects of alcohol, but some other drugs during normal and fatigued conditions.[1] For the moment, however, we confine ourselves to the findings in regard to alcohol. The tests were based on the precision with which dots could be inked on a travelling tape on which small circular areas were plotted out. The authors are William McDougall, F.R.S., and May Smith, M.A., from the Psychological Laboratory, Oxford. They point out chiefly that a more extended investigation is necessary in the light of their interesting discovery that in the course of the protracted fatigue effects following several nights' loss of sleep, alcohol acts deleteriously during the stages of increasing inefficiency, whereas it acts beneficially as the subject later begins to regain his previous efficiency. At the former stage, for instance, it increases the errors, but at the latter it reduces them. The suggestion is made, as an outcome of these investigations, that an important cause of the conflicting results of past workers may be due to the stage or degree of fatigue when alcohol was taken. Experiments were also made on the effects of dilution, and in this connexion, in a series of experiments made upon himself, the results of which are published in the October number of the *British Journal of Inebriety*, Dr. H. M. Vernon raises some important points in regard to the liquor question. His chief contention is that it is practically impossible to get intoxicated on beer containing 3 per cent. alcohol, and his suggestion is that if the price of such beer were lowered, whilst that of the heavier beers were raised, the sobriety of the community in general would be improved. The corollary of this would seem to be a reduced taxation on light beer containing 3 per cent. or less of alcohol selling at 2*d.* per pint, and an increased taxation on heavier beers of 4 per cent. alcoholic strength to be retailed at 5*d.* per pint, and in the case of beers exceeding such alcoholic strength 1*s.* per pint to be charged. In short, Dr. Vernon holds that the capacity of the purse lies at the foundation of sobriety and reform. This may be questionable propaganda, particularly at a time when labour is highly paid, while the complaints about war beer, described by the working classes as "wash" not worth drinking, are notorious. It is curious to note what a part beer has played in national affairs. The question of beer-supply, involving increased taxation or restrictive measures in general, has been an issue which has led to the loss of the confidence of a constituency by well-known statesmen. The defence of the poor man's beer has been on more than one occasion an effective political cry. Rightly or wrongly the working populace, there is no doubt, has strong opinions against interference with the "national beverage" in regard either to price or substance. Dr. Vernon's suggestion is interesting and every sensible person will agree that the consumption of strong liquor should be discouraged, but opinions will differ as to whether it will appeal to the body politic. He concludes that, practically speaking, beer containing 3 per cent. by volume of alcohol is a non-intoxicating fluid, and that in his own experience ten pints of beer at this strength would be needed in order to induce a condition of intoxication, and furthermore, it would take over four hours to drink it. The experiments are instructive, based on efficiency and speed of typewriting, and have clearly involved much time and attention. An arresting statement is that the toxic action of wines is greater than is usually assumed, and what we have regarded as the most innocent wine of all, claret, appears, when diluted to 5 per cent. alcoholic strength, to have almost the same effect as whisky of the same strength. It would be interesting to know the experience on this point of the French Army, which was supplied with vin ordinaire bountifully through the war, as compared with those served with spirits. It will be remembered that spirit is practically pure alcohol more or less diluted and showing a specific gravity much lower than wine, and therefore the osmotic pressure of the two is very different. In that case we might expect a marked difference in physiological response.

[1] Special Report Series, No. 56, "The Effects of Alcohol and Some Other Drugs during Normal and Fatigued Conditions," published by His Majesty's Stationery Office.

FAMINE DROPSY AND THE WAR.

IN the September issue of the *Bristol Medico-Chirurgical Journal* Dr. J. A. Nixon gives a succinct and valuable account of famine dropsy as a food-deficiency disease, recognisable at intervals in the course of history, and reappearing during the recent war to be greeted as a new sickness under the names of war œdema and hunger œdema. The first of these latter outbreaks apparently occurred at Lille in October, 1914; the town was in German occupation and many of the inhabitants were reduced to a diet of potatoes. Dr. Nixon defines famine dropsy as a form of dropsy associated with bradycardia, polyuria, and asthenia, which occurs in persons subjected to long under-feeding, and is unattended by albuminuria, cardiac dilatation, or neuritis. It affects more particularly men called upon to perform hard physical work whilst their daily food ration contains from 800 to 1200 calories. In fact, the essential conditions which lead to famine dropsy pure and simple are well established—namely, prolonged under-feeding with a largely fluid diet, which comprises 15 per cent. or more of indigestible cellulose, with very little fat and a maximum daily allowance of 50 g. of protein. Climate, exposure, and fatigue hasten the onset of the disease; previous illnesses, such as diarrhœa and dysentery, so constantly precede it that at one period of the war its origin was suspected to be in intestinal infection. It was seen that in a given community fed on the same ration more cases occurred in cold weather than in warm, but the Indian famine of 1877–78 (when Cornish first recognised famine dropsy as a definite entity differing from beri-beri and scurvy) has demonstrated that it can occur in hot climates. It is independent of renal or cardiac disease and of pellagra. The idea that certain foodstuffs evoke the disease is disproved. The probability is that some toxic or nutritional defect alters the permeability of the capillary walls, and there are other factors to be considered. The first of these is the altered composition of the blood, which exhibits hydræmia, hypo-albuminosis, and

deficiency of lipoids. There may be in consequence an increased passage of fluid through the capillary wall. But the blood changes appear to be of too slight a degree; moreover, this theory is not compatible with the rapid resorption of the œdema. A second hypothetical factor is that the tissue cells, damaged by nutritional defects, become capable of excessive imbibition of water (Fischer's theory of œdema), but there is no evidence in support of this theory; the fluid gravitates from one part to another and can sometimes be drained off by hollow needles, proving that cell-imbibition is not the essential factor. A third factor is put forward in the theory that the endocrine glands (thyroid or adrenals) control the water economy. Several observers are engaged in investigating this theory at the present time. Other suggested causal factors are briefly considered; mere excess of fluid in the diet cannot account for the dropsy, for life can be supported without the appearance of such disease on a fluid diet provided there is a sufficiency of protein, calories, and vitamines. In the polydipsia and polyuria of diabetes mellitus and insipidus the mere ingestion of fluid does not produce dropsy. The post-mortem appearance is characterised by a total absence of fat throughout the body, its normal sites being occupied by œdema. Evidences of concurrent or intercurrent disease are frequently met with. There is evidence that the disease is not communicable by contagion. The prognosis in uncomplicated famine-dropsy is good, provided that treatment in the form of improved diet can be given. The prospect of recovery is best in young subjects, in those who come earliest under treatment, and in those free from any other disease; the mortality is greater in men than in women. Uncomplicated cases begin to recover within 48 hours if kept warm in bed with an increased diet, but relapses are common when the patient first exerts himself. It may be weeks before the patient can get up without some slight return of the œdema. The cure of famine dropsy is simple. Rest in bed, warmth, and a diet rich in carbohydrates appear to cure most cases in a short time. The latest researches prove, however, that an adequate protein content is no less essential to the dietary than an adequate supply of calories. The diet at first must be light, easily digested, and given in small quantities, as in any case of starvation. The amount of liquid and of common salt should be limited. Attention must be paid to any other disease which is present. Relapses of diarrhœa are in particular apt to be troublesome. The simplest and most compact remedy for famine dropsy is cod-liver oil.

FIBROMYOMA OF THE MESENTERY.

ACCORDING to Dr. E. S. Judd and Dr. J. R. McVay,[1] of Rochester, Minnesota, who record a case of mesenteric fibromyoma in a woman aged 25, successfully removed by an operation in which 26 cm. of the small intestine were resected, solid tumours of the mesentery are an exceptional occurrence, only about 100 cases, of which lipomata are the commonest and fibromyomata the rarest, having been reported. The diagnosis of mesenteric tumours is always difficult and often impossible. The most constant symptoms are pain and constipation, and the tumour may be noted from a few weeks to 15 years before medical advice is sought. The mass is usually to the right and below the umbilicus and not adherent. The condition must be differentiated from intestinal tumours, tumours of the liver and pancreas, cystic and solid ovarian tumours, fibroids, omental tumours, and tumours of the kidney. The prognosis in fibromyomata of the mesentery, according to the writers, is only fair. Vance reported that the mortality was 40·7 per cent. in 27 cases, and in 13 of these in which resection of the intestine was performed, the mortality was 46·15 per cent., hæmorrhage, shock, sepsis, gangrene of the gut, or failure of anastomosis being the most frequent complications which are responsible for a fatal issue.

[1] Surgery, Gynecology, and Obstetrics, October, 1920.

INTELLIGENCE AND SOCIAL VALUATION.

A PRACTICAL method for the diagnosis of mental deficiency and other forms of social inefficiency has been worked out by Dr. Richard A. Berry, professor of anatomy in the University of Melbourne, and Mr. S. D. Porteus, director of research at Vineland, New Jersey. Their report, which is before us, is the result of two years' extensive and careful comparative investigations into the brain capacity, the psychological development, and the potential social value of the child. The first part of the work is devoted to the result of the examination of the brain capacity of over 9000 children, norms being established for each age from six years to maturity by means of head measurements according to Lee's formula. The results are valuable in that they give us an idea of the rate of growth of the supra-granular layer of the cortex, growth being maintained until 20, with a well-marked resting period of a year just before puberty. The female brain was found to develop at a quicker rate than the male, and although the actual calliper measurements are less the girl attains her full cerebral growth at a slightly earlier period than the boy. Abnormal cases were then submitted to a further examination by the Binet-Simon tests, when 14 per cent. of abnormally large-headed children and 50 per cent. of children with heads abnormally small were found to be intellectually backward. The Binet-Simon tests, which do not touch upon the determination of the child's social efficiency or inefficiency, were here supplemented by the Porteus or Maze tests, and it is claimed that a clear picture of the child's potential mental development is got by a combination of these three investigations. The report is an important addition to the literature of mental development and should be a valuable aid in the diagnosis of mental defect and estimation of the social value of the individual.

TOBACCO SMOKE AS A MOUTH DISINFECTANT.

IT must be admitted that it would be of great practical interest to ascertain definitely what action tobacco smoke may have on the micro-organisms of the mouth. During the recent influenza epidemics every medical practitioner must have been repeatedly asked by his patients whether tobacco smoke can kill the influenza microbe. Several disquisitions exist in medical literature with the object of solving this problem, but all of them fail in not having made any practical experiments on the subject, so that it still remains undecided whether the marked bactericidal power of tobacco, as shown in vitro upon many micro-organisms, is also manifested in the oral cavity and even as some have alleged in the lungs after inhalation and in the intestine following on deglutition. Professor V. Puntoni,[1] of the University of Rome, has undertaken some experiments with the object of ascertaining the real action of tobacco smoke as a disinfectant under conditions similar to those which exist in the oral cavity. The results of these experiments are interesting. In the first place, it was found that the strikingly disinfectant power that tobacco smoke exercised in vitro did not occur to the same extent in the mouth of the smoker, and the most that could be said was that a bactericidal action was only shown to follow the consumption of very large quantities of tobacco, and then only on the micro-organisms of least resistance, such as the meningococcus and cholera vibrio. It is not admissible that microbes having the resistance of *B. typhosus* or greater can be killed in the mouth by tobacco smoke, and it is absurd to think that the bactericidal action of the smoke could manifest itself in the respiratory tract as a sequel to inhalation. The different qualities of tobacco made use of in these experiments showed a disinfecting power almost equal in relation to the weight of tobacco used; denicotinised cigars acted just as powerfully as ordinary ones. The smoke of tobacco completely decolorised by filtration through compressed cotton-wool retained a marked bactericidal

[1] Annali d' Igiene, Rome, August, 1920, No. 8.

action, notwithstanding the loss of all the nicotine and tar products, which are the two elements possessing definite disinfecting power. The bactericidal substances contained in this decolorised smoke are soluble in water, one of them being capable of distillation at 100° C. and identical with formaldehyde, the other not capable of distillation was pyrrol, the bactericidal action of which as a component of tobacco smoke, and hitherto unknown, is important. The disinfectant action of tobacco smoke is, however, due to the activity of many elements, among which may be enumerated with certainty tar products, nicotine, formaldehyde, and pyrrol. It may be recalled that, as shown in our own investigations of the subject (THE LANCET, April 6th, 1912), the main constituents of tobacco smoke are found to be basic in character, and germicides, generally speaking, are of the acidic type—e.g., salicylic acid, benzoic acid, boric acid, carbolic acid, hypochlorous acid, and so forth. Whether this differentiation has any significance is not clear, but the experiments recorded remind us of the tradition that during great cholera epidemics those who smoked clay pipes proved immune from the disease, though surrounded by numerous cases.

TUBERCULOSIS OF THE CERVIX.

TUBERCULOSIS of the cervix is a rare condition, since Chaton in 1908 was able to collect only 87 cases. The first of which a pathological description is given was reported by Cornil in 1889, in which Péan performed hysterectomy under the impression that the disease was cancer. Dr. Verdelet and Dr. Joseph Daraignez,[1] of Bordeaux, to whom we are indebted for this information, relate a case in an unmarried woman, aged 25, who had suffered for 12 months from profuse leucorrhœa accompanied by loss of weight and profound asthenia. She had never menstruated. Local examination showed an infantile uterus with a polypus of the cervix surrounded by small ragged ulcers. Although smears did not show any tubercle bacilli, the possibility of a tuberculous lesion was considered in view of the general condition and the presence of obviously tuberculous glands in the neck, axillæ, and groins, and enlargement of the hilus glands on X ray examination. The polypus was therefore excised and the ulcers curetted and cauterised. Histological examination showed numerous glandular tubules between which were typical tuberculous follicles. As there was no evidence of disease of the body of the uterus or the adnexa, it is probable that the infection had been conveyed from the tuberculous glands by the blood or lymphatics. In view of the infantile condition of the uterus, which might account for the slow progress of the affection, the writers express the hope that the disease would not spread farther. Should, however, an upward extension take place, hysterectomy would be required.

THE DIPPING RESPONSE.

THE imperative necessity of keeping the respiratory passages clear, and of protecting the organism against the introduction into them of liquids or of irritating gases, has led to interesting protective mechanism. One method of defence is the closure of the inlets, which can be accomplished by a reflex inhibitory arrest of the respiratory movements—prevention being better than cure—and the other is a forced expiratory blast, a vigorous cough or sneeze, to remove the offending entrant. The classic example of the latter is the action of the superior laryngeal nerve when food "goes the wrong way." Before the modern term defensive or protective was invented the old surgeons used to call the reflex the sentinel of the larynx. The inhibitory reflex respiratory mechanisms are particularly interesting in diving birds or in animals that may naturally have to sojourn for a long time under water. Professor Richet, of Paris, used to show in his lectures a very impressive experiment; he plunged a duck under water and asked his audience to determine by their watches the time the duck could be submerged without breathing. The time is shortened by atropine, probably because of the acceleration of the heart beat. Many years ago Professor Fredericq, of Liège, recorded the arrest of breathing in ducks when he poured water on the nostrils, the mouth being kept open; Miss Frances Huxley some years later re-investigated the same phenomenon and found that as soon as water came in contact with the nasal mucous membrane a reflex apnœa was induced. Obstruction of the nostrils does not interrupt breathing; the animal still breathes through the mouth. Even when the mouth is filled with water and the nostrils closed no inhibition occurs. The same negative result obtains if the nostrils are closed with the fingers and the animal submerged, but as soon as the finger pressure is removed apnœa is observed. Experiments with pigeons give the same results, and an analogous dipping reflex has been observed in dogs. Swale Vincent and A. T. Cameron, in the *Journal of Comparative Neurology*, 1920, have extended these observations and made others. White rats, if plunged into water at body temperature, cease to breathe as soon as the nostrils come in contact with the water, and since this phenomenon occurs also in narcotised animals it is not a voluntary cessation of the respiratory movements. Mechanical or chemical obstruction of the nostrils is without effect. When the vapour of chloroform or ammonia reaches the nostrils of a rabbit it closes its nostrils, ceases to breathe, and there is simultaneous reflex arrest of the beat of the heart. Is this an adaptation to its burrowing habits? Axenfeld several years ago investigated the reflex arrest of the respiratory movements in the submerged frog as soon as its nostrils touch the water, and came to the conclusion that the nasal mucous membrane of the frog is specifically stimulated by air and water, contact with air discharging respiratory movements, while water contact brings about their arrest. If the nasal mucous membrane is injured by the application of 20 per cent. acetic acid and the frog placed under water, there is no interruption of the respiratory movements, and the mouth fills with water. This inhibitory dipping reflex seems to be more marked in the frog than in other animals. A frog may live for several weeks under water without, during this time, making any respiratory movements—the respiratory exchanges through its skin sufficing for its modest needs. It would seem, therefore, that in all vertebrates there is a reflex mechanism which can arrest the respiratory movements when the head of the animal is dipped under water. The receptors for this reflex lie probably in the epithelium of the nasal mucous membrane.

[1] Journal de Médecine de Bordeaux, Sept. 25th, 1920.

THE NAVAL MEDICAL SERVICE AS A CAREER IN AMERICA.

THE Surgeon-General of the United States Navy, or, as we would say, the Medical Director-General, Admiral W. C. Braisted, who is also President Wilson's personal physician, contributes to the Navy Number of the *Military Surgeon* an article asking temporary officers of the Medical Corps of the United States Navy to join the permanent service. The precedence they will have is still to be arranged, and it would seem to be assumed that they will get the ordinary pay of their rank, though this is nowhere stated. But the interest of the article lies in the Surgeon-General's published exposition of the advantages to a young doctor of service in the navy. The services of young doctors in the United States are at present so much in demand, the immediate rewards of practice are so great, that service in the navy makes little immediate appeal. The people of the United States have recently become so wealthy that those who formerly would have joined medical clubs have now their private physicians, and practice has become unexpectedly remunerative. But it is a practice without large promise for the future, so the Surgeon-General appeals to those with greater ambition to remember that, even if service in the navy offers a relatively modest competency, it gives a dignified and respectable

position, with opportunity for study, travel, and diversion, and with little professional jealousy to numb a man's efforts. That it involves going to sea is true, but this, he urges, saves matrimony from monotony, and often takes the ladies to pleasant places free of expense (this is written of the U.S. Navy, where "Government provision is made for transfer of effects, and there is reimbursement for the travel expenses of one's family"). He recommends this service to men who desire to become scientific physicians, emphasising the good equipment and the laboratories at the hospitals, and the opportunities for public health and preventive work. The shortage of officers is, he says, serious, and he wants 570 medical officers and 75 dentists. That there should be so many vacancies, more than there were officers in the medical department of the British Navy before the war, seems to confirm the rumour that the United States means to have in the future a very large navy. Most of Admiral Braisted's argument is equally a recommendation to young practitioners in England to join their own Royal Navy, and as such we bring it to their notice here.

GRADED MILK.

IN a circular (121) issued this week to the local authorities by the Ministry of Health attention is called to the regulations in regard to the sale of graded milk. The designations "Grade A (Certified) Milk" and "Grade A Milk" are permitted under licence, the issue of which is a guarantee of the purity of the supply. Licences already granted must be renewed on March 15th, 1921. A copy of the regulations governing the issue of such licences has been distributed. It is stated, however, that hitherto little advantage has been taken of these official arrangements, and the Minister of Health desires that increased publicity should be given to them, and that producers and distributors should be encouraged by a growing demand to undertake the supply of high-grade milk in accordance with the prescribed conditions. Grade A milk is defined as milk produced under specially clean and hygienic conditions from a herd free from tuberculosis. Grade A (certified) milk must be obtained under the same conditions, but must be bottled in accordance with rules set out, and must show a satisfactory result on bacteriological examination. It should be a matter of common knowledge that Grade A milk, and that alone, is fit for human consumption without being heated. Every enlightened citizen should demand to be supplied with this grade of milk, insisting on pasteurisation if any other grade is offered him. There is a strong movement on foot to compel dairymen to pasteurise all milk which does not conform to Grade A standard.

THE BISSET HAWKINS MEDALLIST.

THE Bisset Hawkins Memorial Medal, which was handed to Dr. W. H. Hamer by the President of the Royal College of Physicians after the delivery of the Harveian oration, is bestowed triennially on a British subject who, during the preceding ten years, has advanced sanitary science or promoted public health in a way deserving special recognition. Previous recipients of the medal still with us are Sir Patrick Manson, Sir Shirley Murphy, Dr. Clement Dukes, Sir Ronald Ross, and Sir Arthur Newsholme. Memory is short, and it may be not amiss to recall that Dr. Francis Bisset Hawkins, who at the time of his death in 1894, at the age of 98 years, was Senior Fellow of both Royal Society and Royal College of Physicians, made the recommendation which first led to the systematic registration of the causes of death. He may therefore be regarded as one of the founders of sanitary science as we know it. Without an accurate death registration Dr. Hamer could hardly have carried out his remarkable studies of epidemic disease in England, which have earned him the Bisset Hawkins medal.

Professor Hugh Maclean has been appointed for a period of five years to the Chair of Medicine in the University of London, tenable at St. Thomas's Hospital Medical School.

REORGANISATION OF THE INDIAN MEDICAL SERVICES:

THE LOVETT AND ESHER REPORTS.

THE Committee directed to examine the question of the medical services in India, under the presidency of Sir Verney Lovett, have presented their report, in which they formulate a general scheme for the reorganisation of the medical services in that country. Various discussions have taken place between the authorities concerned with reference to the desirability of maintaining the present system of two separate medical services working side by side, or of uniting the latter in one service to undertake all medical work in India. In 1911, when the number of Indians entering the Indian Medical Service was materially increasing, it was again proposed to make it a purely civil service. Sir Pardey Lukis, Director of the Indian Medical Service, then objected on the ground that the scheme would abolish the Indian Medical Service War Reserve, and pointed out that the medical schools in England were beginning not to send their best men to that service, as its future was considered to be uncertain. The question was therefore dropped. But the Indian Medical Service continued to decline in popularity. The British Medical Association, invited by the Secretary of State for India to inquire into the causes of discontent, drew up a memorandum which was placed before the Indian Public Services Commission sitting in London in July, 1914. The chief points dealt with therein were: (1) the inadequate scale of remuneration; (2) difficulties in obtaining ordinary and study leave; (3) interference with private practice; (4) the unsatisfactory position of the director-general and surgeons-general in relation to the central and local governments of India. The commission observed that the civil medical work of the country had hitherto been performed satisfactorily, and that no case had been made out for ceasing to employ the medical war reserve in India on civil duty. They advised the civil recruitment of such additional assistance as might be necessary, and laid stress on the necessity of calculating separately the needs of the army and of the civil administration, and of abandonment of the idea that the civil medical administration should be dependent on the requirements of a military reserve. They recommended imperial and provincial medical services.

A memorandum by Sir George Makins, annexed to the report, strikingly points out that to the outside observer the Indian Medical Service appears to be a congregation of individuals, held together by the common tie of similar duties, but possessing no proper central administrative department to correlate and combine the various paths of work, or to which the members of the service can look to for advice, direction, or support.

The civil side of the Indian Medical Service was considerably depleted during the war; officers recalled to military duty were apt to find themselves at a disadvantage in comparison with officers of the Royal Army Medical Corps, and disappointment resulted. Meanwhile, Indian political views were expressed in favour of the institution of a civil service wholly independent of the medical organisation of the Indian Army. A resolution to this effect was lost when put to the vote in the Viceroy's Council, but was supported by all the non-official Indian members.

REPORT OF THE LOVETT COMMITTEE.

General Recommendations.

In October, 1918, the Secretary of State (Mr. Montagu) wrote to the Government of India pointing out that what was necessary was to put before the medical profession in England a scheme that would attract to India candidates of requisite qualifications, and in sufficient numbers, to rescue the Indian Medical Service from the ruin which threatened it. The Government of India then appointed the East India (Medical Services) Committee, a summary of whose findings, issued in a report [Cmd. 946. Price 1*s.* 6*d.*] dated April 22nd,

1919, follows. The numbered recommendations are taken substantially from the report.[1]

(1) The formation of an Indian Medical Corps, to take the place of the Indian Medical Service, and, in addition, to do the work now performed by the Royal Army Medical Corps in India. It should also recruit for and include the higher civil medical service of the country.

The war has impressed upon the military authorities that the medical requirements of an army are best met by a medical service pre-eminently military. Provincial governments have found that no province can afford to be deprived of the bulk of its best medical officers, or to lose college professors and specialists. A combined Indian Medical Service would offer a mixed career—military, civil, professorial, sanitary, and research.

(2) This corps should have an ordinary war reserve of officers lent to civil administrations for five years or less, and a special reserve of officers belonging to its civil branch who should only be recalled to military duty on occasions of grave national emergency, and not even then if holding certain residuary appointments. (3) It should include transfers from the Army Medical Service and the Royal Army Medical Corps. (4) The military side of the corps should have its own depot and school of instruction. (5) Junior officers should, shortly after their first arrival in India, be attached to a large civil hospital or school of tropical medicine for practical instruction in tropical diseases. (6) The special reserve should be partly recruited from civil assistant surgeons and independent medical practitioners. (7) The governments of the various provinces should supplement their contingents of officers from the Indian Medical Corps with exclusively civil medical officers, whom they will themselves appoint. (8) Special arrangements should be made by Government to secure European medical attendance for European officers and non-officials when required. (9) A system of optional retirement on gratuity should be adopted in order to secure a sufficiency of candidates for the new corps. (10) Admission to the corps should be through the portal of a single examination held in England twice a year. Selected Indian students from the five Indian universities should be assisted by scholarships to compete in this examination. (11) Immediate admission, however, must be by transfer and nomination. (12) Special opportunities should be provided for work in research and scientific medicine. Certain posts in the sanitary and other departments should be reserved to officers of the new corps. (13) There is only one possible alternative scheme, which the Committee indicate but regard as decidedly inferior to the scheme they recommend.

The alternative mentioned is to abandon all attempts at unification, to recommend the formation of a medical corps for the Indian Army, and the granting of substantial improvements in the salaries and leave rules of the Indian Medical Service, in order to equalise its attractions with those of the Royal Army Medical Corps. The Committee find that the existing civil organisation is hopelessly inadequate; the great obstacle to medical and sanitary improvement is the conservatism and apathy of the mass of the people. The coöperative movement in Bengal for medical relief and anti-malarial measures is welcomed as the first sign of popular effort in the care of public health. Civil surgeons are overworked; colleges and schools are understaffed; research institutes need money and workers; travelling dispensaries could with great advantage be indefinitely multiplied.

Improvements in the Officer Grade.

(14) Salaries should be increased. More liberal provision should be made for leave. Full pensions should be admissible at an earlier date. The position of civil administrative officers should be improved. Better buildings should be provided for Indian station hospitals. (15) The number of officers of the corps required for duty in peace time should be calculated at 3 per mille of the total strength of the army in India. A leave and casualty reserve of 25 per cent. and a study reserve of 4 per cent. of the officers required for duty should be provided. (16) Promotion should be on the same system as promotion in the Royal Army Medical Corps, including selection for promotion to the rank of lieutenant-colonel to fill a fixed establishment. Every officer should, between his seventh and tenth years of service, undergo a post-graduate course at the Royal Army Medical College. All officers should, on attaining the rank of lieutenant-colonel, make their choice between the careers of: (*a*) military administration; (*b*) professional employment as consultants; and (*c*) permanent civil employment. No officer should be eligible for transfer from civil to military, or military to civil, employment after promotion to the rank of lieutenant-colonel. (17) The head of the military side of the new corps should be an officer of the corps. A board should be established for the selection of officers for promotion.

Improvements in the Minor and Provincial Services.

A. *Military Assistant Surgeons.*—(18) The standard of education should be so raised as to admit of their obtaining a registrable qualification. They should be employed only on professional duties. (19) Those who obtain a qualification registrable in the United Kingdom should be allowed to proceed to England and compete for admission to the commissioned ranks of the Indian Medical Corps. Their pay and pension should be raised in consequence of the previous recommendations.

B. *Military Subassistant Surgeons.*—(20) Their standard of general education should be raised. (21) Subassistant surgeons who obtain certain diplomas should be eligible for transfer to the military assistant surgeon branch. (22) Hostels should be provided in all medical schools. (23) Subassistant surgeons should on first joining the corps undergo a full course of training at the Indian Medical Corps depot and school. (24) They should be put through systematic physical training at the medical schools. (25) Post-graduate instruction should be provided. (26) Allowances while travelling on duty should be increased. (27) The question of increasing their pensions and family pensions should be considered, and a provident fund introduced.

C. *Civil Assistant Surgeons.*—(28) Selection for superior appointments should take place earlier than at present. (29) They should undergo regular study periods. Their pay should be raised. A limited number should be trained for the special reserve at the Indian Medical Corps depot and school of instruction.

D. *Civil Subassistant Surgeons.*—The time scale of pay should be adopted generally. (31) The standard of preliminary education should be raised, and a minimum and uniform standard of medical education for this class should be adopted in all provinces. (32) They should be required to sign an agreement to serve wherever they may be ordered, on civil or military duty. When called up for military service they should be given three months' training at the Indian Medical Corps depot and school. (33) They should undergo courses of post-graduate training.

Other Departments.

Medical Store Department.—(34) Improved accommodation should be provided for the depots at Madras, Bombay, and Lahore. (35) The laboratory at the Lahore depot should be closed. (36) The cadre of medical storekeepers should be increased, and the pay of these appointments raised. (37) Medical storekeepers should in future be known as Officers-in-charge, Medical Store Depots. (38) The scales of subordinate establishment should be raised and a better class of men entertained. (39) Compounders should be required to undergo a prescribed examination. (40) Greater control should be exercised by administrative medical officers over the submission of emergent indents. (41) The question of the introduction of measures to prevent the adulteration of drugs should be considered at an early date. (42) The number of military assistant surgeons employed in the depots should be reduced. (43) Research and pharmaceutical chemists should be employed in certain depots. (44) The forms in use in depots should be standardised, and the equipment list revised and kept up to date. (45) The staff of the office of the Director-General, Indian Medical Service, should, under certain conditions, be increased. There should be a Deputy Director-General, Indian Medical Service, and an Assistant Director-General, Indian Medical Service, to deal with questions regarding medical stores. These appointments should be open to the cadre of the Medical Store Department. (46) Stocks should be verified at least once in every three years. (47) The system of accounting should be changed.

Sanitary and Bacteriological Departments.—(48) Imperial and provincial health boards should be formed. (49) Both the departments should be expanded. (50) The staff of officers in the Sanitary Department should be increased and inducements should be offered which would be likely to attract the best men. (51) Greater coöperation is required between the administrative heads of provincial medical services and sanitary commissioners.

Alienist Department.—(52) Central asylums should be still further substituted for smaller asylums. (53) The depart-

[1] The appointed members of this committee were Sir Verney Lovett (president), Major-General G. Cree, A.M.S., Major-General P. Hehir, I.M.S., Major-General H. Hendley, I.M.S., Major-General G. G. Giffard, I.M.S., Lieut.-Colonel A. Shairp, Lieut.-Colonel G. B. A. Rind, Mr. S. R. Hignell (nominated by the Home Department), and Major A. A. McNeight, I.M.S. (secretary). Three Indian gentlemen were co-opted—namely, Colonel H. E. Banatvala, I.M.S., Lieut.-Colonel Bola Nath, I.M.S., and Sir T. B. Nariman. Later Major M. T. Cramer-Roberts took the place of Colonel Rind, and Lieut.-Colonel H. Ross, I.M.S., was co-opted.

ment should be properly organised with its own leave and study reserves. (54) The cadre should be increased. Greater inducements should be offered to military assistant surgeons and Indian graduates to take up mental work. (55) Superintendents of central asylums should become consultants to military hospitals,

Women's Medical Service in India.—(56) The National Association for Supplying Female Aid to the Women of India should be placed in a position to enable it to augment its cadre and increase the pay of the medical women employed by it. (57) Women students of the subassistant surgeon class should be taught by women doctors in female medical schools and hospitals. These institutions should be assisted financially by Government, and regularly inspected. (58) Women doctors of the assistant and subassistant class should receive post-graduate instruction.

Proposals relating to organisation are contained in two annexures to the Report, which may be summarised thus:

Indian Medical Corps.—The organisation of the proposed corps must provide for all the needs of British and Indian station hospitals as regards personnel. It should therefore consist of the following categories: (1) officers; (2) assistant medical officers; (3) subassistant surgeons; (4) other ranks, comprising nursing, clerical, ambulance, storekeeping, and general sections. The sections must be divided into two classes, British and Indian, to provide for the different needs of British and Indian hospitals, with the exception of the ambulance and general sections, which will consist entirely of Indians.

Nursing Services of the Army in India.—The recommendations of the Committee are as follows: (1) That the present Queen Alexandra's Military Nursing Service for India be abolished and its place taken by the Queen Alexandra's Imperial Nursing Service. Members of this service should come to India for tours of duty, as they do in various other parts of the Empire. (2) The introduction of Royal Army Medical Corps, other ranks, and eventually the nursing section of the Indian Medical Corps, composed of a skeleton cadre of Royal Army Medical Corps men with members of the domiciled community, as in British station hospitals. (3) The introduction of the nursing section of the Indian Medical Corps into Indian station hospitals. (4) The matrons of station family hospitals should possess a certificate in general nursing, in addition to that in midwifery, and should have a competent staff of female nurses under them. (5) The whole of these nursing services should be under the supervision of the Queen Alexandra's Imperial Nursing Service.

The requirements of the Queen Alexandra's Imperial Nursing Service as to personnel, and the functions they should perform, are also described.

REPORT OF THE ESHER COMMITTEE.

The Lovett Report is criticised and discussed in the report [Cmd. 943. Price 1s. 6d.] dated Nov. 3rd, 1919, issued by the East India (Army in India) Committee appointed by the Secretary of State for India to inquire into the administration and organisation of the Army in India. In the section of the report devoted to the medical services this Committee, the chairman of which was Lord Esher, point out that the suggested unification of the two medical organisations—the Royal Army Medical Corps and the Indian Medical Service—presents great difficulties, arising from the double rôle of the Indian Medical Service. The Esher Committee refer to three distinct schemes which have been put forward:—

(1) That of the Lovett Committee—viz., the elimination of the Royal Army Medical Corps from India, and the creation of a unified Indian Medical Corps, to serve both the army and the civil population.

(2) That advocated by a large body of military opinion, by senior members of the Royal Army Medical Corps, and by a large section of Indian opinion—viz., that the medical charge of the Indian Army, as well as that of the British Army, be entrusted to the Royal Army Medical Corps, thus making the Indian Medical Service a purely civil medical service.

(3) That advocated by another large section of Indian opinion, which is strongly opposed to the breaking up of the present Indian Medical Service—viz., the retaining of both the Royal Army Medical Corps and the Indian Medical Service, but the splitting up of the latter into two separate services, the one serving the Indian Army and the other the civil population.

The Esher Committee consider the Lovett Report to contain the only feasible scheme for a unified military and civil medical service, but feel unable to support it because after the first selection had been made the scheme would permanently exclude the Royal Army Medical Corps from India, thereby adversely affecting both the large body of troops, whose health has hitherto been so admirably safeguarded by the Corps, and the Corps itself, whose members would be shut out from the wide field of experience offered to them in India.

The second scheme, to which the Esher Committee find no objection in principle and from a military standpoint, they cannot recommend because of two serious objections: (*a*) the complete separation of the civil from the military medical service, and (*b*) the loss of a reserve of 300 to 400 medical officers, with military training and holding the King's commission, whom the local governments would furnish from the civil side in case of an emergency.

The third scheme does not, in the opinion of the Esher Committee, merit serious consideration, two previous cleavages of the Indian Medical Service having been attempted and found unworkable. The Committee also emphasise the undesirability of the formation of a separate civil medical service, on the grounds of the large increase of expenditure which would probably be rendered necessary; of the deterioration of such a service which they consider would inevitably accompany its tendency to become provincial; of the difficulty which would occur in obtaining a sufficient number of well-qualified Europeans for such a service; and of the unwisdom of breaking up a service having such a fine tradition and record as the Indian Medical Service.

Proposals of the Esher Committee.

The proposals of the Esher Committee, which they claim will, if accepted, maintain the Indian Medical Service in its position as the premier medical service of India, and secure more harmonious and closer coöperation between it and the Royal Army Medical Corps, are as follows:—

(1) There should be a joint examination, as was formerly the case, for both services in medicine and surgery, the subjects common to both. Candidates for the Indian Medical Service should take in addition the extra subjects considered necessary for that service. (2) The commissions for successful candidates should in both cases bear the same date, which might be either that of their joining or passing out from the Royal Army Medical Corps College, Millbank. (3) There should be joint preliminary training, as at present, at Millbank; but Indian Medical Service officers of between five and ten years' service should, like Royal Army Medical Corps officers, return to Millbank for subsequent courses till such time as adequate facilities for such training are provided in India. (4) The rules and periods of service for promotion up to the rank of major should be similar for both services. (5) No Indian Medical Service officer should be eligible for civil employ till he has completed at least two years' service on the military side, and has been certified by the Director Medical Services as fully qualified on that side. (6) The selection of officers for civil employ should be made by a board, consisting of the Director-General Indian Medical Services as president, the Director Medical Services, and not more than two lay members to be nominated by the Government of India. (7) An Indian Medical Service officer should select finally between military and civil employ in his sixteenth year of service. (8) Promotion to lieutenant-colonel for Indian Medical Service officers in military employ should be subject to selection, as in the case of the Royal Army Medical Corps. (9) Officers in civil employ should be classified as: (*a*) ordinary war reserve—up to 10 years' total service; (*b*) special war reserve—up to 16 years' total service; (*c*) all others. (10) Officers of the Royal Army Medical Corps should be posted to India in the various grades for tours of duty as at present, and should be entitled to a reasonable share of the higher military administrative appointments. (11) The post of Director Medical Services should be held by an officer of the Royal Army Medical Corps and the Indian Medical Service alternately. (12) Exchange of officers between the Royal Army Medical Corps and the Indian Medical Service should be allowed, as at present. (13) Interchange of duties between officers of both services should be encouraged. (14) If a fixed proportion of Indians be recruited for the Indian Medical Service, that proportion should be maintained in the military and civil branches. (15) On the analogy of other Indian Services, the pay of the Indian Medical Corps should be substantially higher than that of the Royal Army Medical Corps when employed in India. This is necessary in order to attract recruits to the Indian Medical Service. Similarly, the Indian Medical Service pensions should be on a higher scale.

THE MEDICAL REGISTER:
UNTRACEABLE PRACTITIONERS.

IN THE LANCET of July 31st (p. 259) we published a list of the names of practitioners with whom the Registrar of the General Medical Council had failed to get into communication, emphasising in a leading article the importance of an accurate Register. We are glad to learn that in more than half the cases information has been received enabling the Registrar to correct the addresses in the Medical Register. There is another important group of practitioners in regard to whose whereabouts doubts have arisen. Officers holding permanent commissions have their addresses entered in the Register as "Royal Navy" or "Army Medical Service." On retirement a private address is required. A comparison between the Navy List and the Army List on the one hand, and the Medical Register on the other, has brought to light a number of retired officers without known location. The Admiralty and the War Office have furnished alternative addresses in a great number of cases, and the Register has been corrected. The following is a list of such practitioners with whom the Registrar has been unable to get into communication.

NAVAL MEDICAL SERVICE.

Alderdice, George Frederick, L., L.M.R.C.P.I. 1901.
Anderson, Isaac Henry, M.D. Q.U.I. 1869.
Andrews, John, M.D. 1883, R.U. Irel.
Arkwright, Eustace, M.B. 1896, U. Edin.
Axford, Walter Godfrey, C.B., L.R.C.P. Edin. 1895.
Barrington, John Leslie, L.R.C.S.I. 1880.
Barry, Jerome, M.D. 1885, R.U. Irel.
Bennett, William Edward, M.R.C.S. Eng. 1873.
Bradshaw, Frank, O.B.E., L., L.M.K.Q.C.P.I. 1889.
Bray, Ernest Edward, M.R.C.S. Eng. 1881.
Browne, Horace Ximenes, M.R.C.S. Eng. 1878.
Browne, Thomas, M.D. Q.U.I. 1862.
Burke, Hubert William, L.R.C.P. Edin. 1883.
Burnett, Thomas Smith, F.R.C.S.I. 1890.
Burns, Frederic James, M.D. 1884, R.U. Irel.
Chancellor, Alfred Austin, M.B. 1903, R.U. Irel.
Christie, Alexander Livingston, M.B. 1876, U. Aberd.
Coad, John Edwin, M.R.C.S. Eng. 1886.
Colthurst, Ludlow Tonson, M.D. Q.U.Irel. 1874.
Connolly, Nicholas Thomas, L.R.C.S.I. 1860.
Cridland, Edward Carter, M.B. 1888, U. Edin.
Croneen, Sydney, M.R.C.S. Eng. 1895.
Dinsey, Edgar Ralph, D.S.O., M.R.C.S. Eng. 1883.
Ferguson, John Christopher, M.B. 1886, U. Dubl.
Fletcher, William Bainbrigge, M.R.C.S. Eng. 1862.
Finlayson, Henry William, D.S.O., M.B. 1887, U. Glasg.
Geoghegan, Charles Edward, L.R.C.S.I. 1875.
Godding, Charles Cane, C.B., M.R.C.S. Eng. 1872.
Haldane, John Reid, M.B. 1910, U. Glasg.
Hall, Henry Baker, M.B. 1891, U. Edin.
Hamilton, Stewart, L.R.C.S.I. 1871.
Harries, Henry, M.R.C.S. Eng. 1882.
Harvey, Christopher, L.R.C.P. Edin. 1870.
Hawton, James William Hambly, M.R.C.S. Eng. 1873
Holyoake, Hubert, M.R.C.S. Eng. 1886.
Horner, Thomas Lyle, L.R.C.P. Edin. 1868.
Jackson, Gordon Alexander, M.B. 1908, U. Dubl.
Jeans, Francis Austen, M.R.C.S. Eng. 1877
Jenkins, John, M.R.C.S. Eng. 1874.
Kellett, Solomon, L.R.C.S.I. 1866.
Kelsall, Charles James Seddon, M.R.C.S. Eng. 1886
Kidd, Anthony, L.R.C.S.I. 1879
Levick, George Murray, M.R.C.S. Eng. 1902
Levis, John Sampson, M.D.Q.U.I. 1860
Longfield, William Digby, L.R.C.S.I. 1860
Lory, William Manley, M.R.C.S. Eng. 1878
Lumley, Frederick Davidson, M.R.C.S. Eng. 1892
McCutcheon, James, M.B. 1903, U. Dubl.
McKinlay, Archibald, L.R.C.S.I. 1872.
McLeod, Alexander William, L.R.C.S. Edin. 1877.
MacMahon, George Robert, M.B. 1890, U. Dubl.
Macmillan, Charles Clarke, D.S.O., M.B. 1897, U. Edin.
Macnamara, Hugh Winckworth, M.R.C.S. Eng. 1880.
Martin, James McCardie, D.S.O., L.R.C.P. Edin. 1880.
Meaden, Edward Henry, C.M.G., M.R.C.S. Eng. 1886
Miller, Richard, M.B. 1883, U. Dubl.
Morley, Edward John, M.R.C.S. Eng. 1879.
Ninnis, Belgrave, C.V.O., M.D. U. St. And. 1861.
Norbury, Sir Henry Frederick, K.C.B., M.D. U. Malt. 1870.
O'Brien, Michael, M.D. 1884, R.U. Irel.
O'Leary, Elystan Glodrydd Evelyn, M.R.C.S. Eng. 1894.
Patterson, Alfred, L.R.C.S.I. 1873.
Price, Alfred Rees, M.B. 1908, U. Edin.
Reid, Ernest Stewart, M.B. 1895, U. Edin.
Reid, Walter, M.D. U. Edin. 1863.
Richardson, Henry Anthony Wills, L.R.C.S.I. 1873.
Scott, Alexander, M.B.U. Aberd. 1860.
Shaw, Ernest Albert, O.B.E., M.B. 1890, U. Camb.
Stott, William Gordon, M.B. 1885, U. Aberd.
Swann, Edward Goffe, L.R.C.P. Edin. 1880.
Sweetnam, James Long, M.D. 1869, Q.U.Irel.
Thomas, Elijah Richard Lockwood, M.R.C.S. Eng. 1902.
Thomas, John Henry, M.R.C.S. Eng. 1882.
Twigg, George Despard, F.R.C.S.I. 1884.
Vaudin, Matthew Livingston Mitchell, M.B. 1894, U. Edin.
Wales, George Frederick, L.R.C.P. 1880.
Whicher, James Charles Francis, L.R.C.S. Edin. 1884.
White, Herbert, M.R.C.S. Eng. 1911.
Williams, Robert William, L.F.P.S. Glasg. 1870.
Young, William Robert Minchin, L.R.C.S.I. 1879.

ARMY MEDICAL SERVICE.

Allen, Sydney Glen, M.R.C.S. Eng. 1884.
Anderson, Robert Grenville, M.R.C.S. Eng. 1903.
Barnett, Kennet Bruce, F.R.C.S. Irel. 1904.
Barry, John, M.D. Q.U.I. Irel. 1867.
Bate, Louis Albert Frederick, C.M.G., L.R.C.S. Irel. 1884.
Beach, Thos. Boswall, C.B.E., C.M.G., M.R.C.S. Eng. 1889.
Bennett, Richard Dawson, L.R.C.S. Irel. 1868.
Berryman, William Ebenezer, L.R.C.P. Edin., 1881.
Boulger, Isaac, M.R.C.S. Eng. 1873.
Boyd, Thomas, L., L.M.R.C.S. Irel. 1874.
Brogden, James England, L.R.C.P. Edin. 1889.
Browne, Andrew Lang, M.D. 1871, Q.U. Irel.
Buist, Herbert John Martin, C.B., C.M.G., D.S.O., M.B. 1890, U. Edin.
Butterworth, Samuel, M.R.C.S. Eng. 1882.
Carey, John Thomas, M.B. U. Aberd. 1875.
Clark, Sir James Richard Andrew, Bart., C.B., C.M.G., F.R.C.S. Edin. 1888.
Clark, Stephen Frazer, M.B. 1885, U. Edin.
Colahan, John J. Aloysius, M.D.Q.U.I. Irel. 1857.
Corry, George L.R.C.P. Edin. 1868.
Croly, Arthur England Johnson, L., L.M.R.C.S.I. 1879.
Crooke, Sir Warren Roland, C.B., C.I.E., C.B.E., M.D. R.U.Irel. 1884.
Dugdale, William, L.R.C.P. Irel. 1879.
Elderton, Frederick Dundas, L.R.C.S. Irel. 1881
Elliott, Charles Roulston, M.D. R.U.Irel. 1884.
Emerson, Isaac Bomford, L.R.C.S. Irel. 1873.
Falkner, Percy Hope, L., L.M.R.C.P.I. 1898.
Faunce, Charles Edmund M.R.C.S. Eng. 1882.
Fayrer, Sir Joseph, Bart, C.B.E., M.D. U.St. And. 1889.
Finlay, William, L., L.M. K.Q.C.P.I. 1870.
Freyer, S. Forster, C.M.G., M.D. R.U.Irel. 1883.
Garland, Frederick, D.S.O., M.B, R.U.Irel. 1901.
Gormley, Joseph Andrew, M.D. Q.U.Irel. 1873.
Gray, William Lewis, C.M.G., M.B. U.Glasg. 1885.
Gunter, Francis Ernest, D.S.O., M.B. U.Edin. 1893.
Hale, Charles Henry, C.M.G., D.S.I., M.R.C.S. Eng. 1884.
Harrison, Charles Edward C.V.O., C.M.G., F.R.C.S. Eng. 1878.
Henderson, Sir Robert Samuel Findlay K.C.M.G., C.B., M.B.U. Edin. 1882.
Hetherington, Reynolds Peyton, M.D.U. Dubl. 1897.
Hickson, Sir Samuel, C.B., M.B., B.Ch. 1884, U. Dubl.
Hinde, Alfred Buckley, O.B.E. M.R.C.S. Eng. 1886.
Hooper, Arthur Winsmore, C.M.G., D.S.O., M.R.C.S. Eng. 1895.
Hughes, George Edgar, L.R.C.S. Irel. 1885.
Hunter, George Douglas, C.B., C.M.G., D.S.O., M.R.C.S. Eng. 1883.
Hutchinson, Victor Patrick, M.R.C.S. Eng. 1909.
Jagoe, Henry, M.B.U. Dubl. 1867.
Jencken, Francis John, C.B., M.D.U. Dubl. 1881.
Jennings, Charles Boromeo, L.R.C.S. Irel. 1867.
Kelly, Michael, M.D. 1882, R.U. Irel.
Lane, Cecil Alexander, M.B.U. Edin. 1884.
Lane, George, L.R.C.P. Edin. 1894.
Latchford, John, M.B.U. Dubl. 1865.
Lavie, Tudor Germain, M.R.C.S. Eng. 1884.
L'Estrange, Edgar Francis, L., L.M.R.C.P.I. 1895.
Lever, Reginald Croft, M.B.U. Lond. 1860.
Lilly, Alfred Thomas Irvine, L.R.C.P. Lond. 1884.
Longhurst, Bell Wilmott, M.R.C.S. Eng. 1891.
Lucas, Thomas John Rashleigh, C.B., M.B. 1880, U. Dubl.
McCormack, Robert James, M.D. 1881, Q.U. Irel.
McCreery, Benjamin Thomas, F.R.C.S. Irel. 1887.
MacDonald, Charles Joseph, C.M.G., M.D. 1885, R.U. Irel.
McGann, James, L.R.C.S. Irel. 1872.
Maclean, Fitzroy Beresford, M.R.C.S. Eng. 1877.
MacLeod, Robert Lockhart Ross, C.B.E., C.B., M.B.U. Glasg. 1884.
McNaught, James Gibson, M.D. 1894, U. Glasg.
Marder, Edward Swan, M.R.C.S. Eng. 1884.
Martin, John, L.R.C.S. Edin. 1872.
Maunsell, Charles Albert, M.D. Q.U. Irel. 1862.
Melville, Charles Henderson, C.M.G., M.B. 1885, U. Edin.
Molesworth, Robert Everard, M.R.C.S. Eng. 1884.
Morris, Arthur Edward, M.D. 1883, R.U. Irel.
Morris, William Albert, L.R.C.P. Edin. 1880.
Mosse, Charles George Drummond, L.R.C.S.I. 1879.
Nash, Llewellyn Thomas Manley, C.M.G., L.R.C.S.I. 1884.
Nicholls, Henry Michael, M.B. 1898, U. Aberd.
O'Keefe, Sir Menus William, K.C.M.G., C.B., M.D. 1880, Q.U. Irel.
Pennefather, Edward Mansergh, L., L.M.R.C.P.I. 1901.
Popham, Lionel Robert, L.R.C.P. Edin. 1899.
Porter, Robert, C.B., C.M.G., M.B. 1879, U. Glasg.
Powell, John Edward, D.S.O., M.R.C.S. Eng. 1898.
Powell, John Lowry, D.S.O., M.B. 1899, U. Dubl.
Power, William Moroney, L., L.M.R.C.P.I. 1897.
Reily, Alexander Yates, F.R.C.S. Edin. 1889.
Reynolds, James Henry, V.C., M.B. 1867, U. Dubl.
Riordan, John, M.B. 1882, R.U. Irel.
Riordan, William Edward, L.R.C.S. Irel. 1883.
Roe, Edward Alexander Henry, L., L.M.K.Q.C.P.I. 1868.
Roe, William Carden, L.R.C.S. Irel. 1854.
Rogers, Henry, D.S.O., M.B. 1899, U. Dubl.
Rowe, John Mary, M.C., M.B. 1912, N.U. Irel.
Russell, George Blakeley, M.B. 1882, U. Dubl.
Russell, Sir Michael William, K.C.M.G., C.B., M.R.C.S. Eng. 1882.
Ryles, Charles Sydney, M.B. 1904, U. Edin.
Saw, Francis Albert, M.B.U. Durh. 1885.
Scott, Bertal Hopton, M.R.C.S. Eng. 1885.
Semple, Sir David, M.D. 1881, Q.U. Irel.
Sexton, Timothy William, M.R.C.S. Eng. 1905.

Smith, William Patrick, L.R.C.S.I. 1862.
Spencer, Francis Henry, M.D. 1876, U. Aberd.
Stables, Alexander, M.R.C.S. Eng. 1884.
Stack, George Hall, M.B. 1907, U. Dubl.
Swan, William Travers, C.B., M.B. 1884, U. Dubl.
Tate, Gerrard William, C.M.G., D.S.O., M.B. 1889, U. Dubl.
Trotter, William John, L.R.C.S. Irel. 1880.
Turner, Frederick Turner, *M.C.*, M.R.C.S. Eng. 1907.
Ward, Lloyd Brereton, L.R.C.P. Edin. 1873.
Waring, Anthony Henry, D.S.O., M.R.C.S. Eng. 1895.
Watson, Alexander Oswald Cowan, M.B. 1883, U. Edin.
Wellings, Bernard William, L.R.C.P. Edin. 1869.
Weston, Alfred Fullam, L.S.A. Lond. 1899.
White, Michael, M.D. 1873, Q.U. Irel.
Whitehead, Eugene Christopher, M.B. U. Lond. 1905.
Wills, Samuel Richard, L.R.C.S.I. 1882.
Wilson, Barnett, C.B., M.D. 1883, R.U. Irel.
Wilson, Harry Theodore Minden, D.S.O., M.R.C.S. Eng. 1904.
Woods, Charles Greaves, M.D. 1883, R.U. Irel.
Young, Alexander Stewart Ward, L.S.A. Lond. 1877.

Anyone who finds his name in this list should communicate immediately with the Registrar of the Branch Council Office in which he was originally registered. Information from friends of deceased persons or others will also be welcomed by the Registrars.

The address of the Registrar of the General Medical Council is 44, Hallam-street, London, W.1; that of the Registrar of the Branch Council for Scotland is 20, Queen-street, Edinburgh; and that of the Registrar of the Branch Council for Ireland is 35, Dawson-street, Dublin.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Meeting of Delegates of the Medical Profession of Ireland.

A MEETING of delegates of the entire medical profession of Ireland was held in the Royal College of Surgeons, Dublin, on Oct. 20th. In spite of the difficulties and risks in travelling under present conditions the meeting was the largest and most representative held for several years. Mr. R. J. Johnstone, of Belfast, chairman of the Irish Medical Committee, occupied the chair, and the following series of resolutions was carried:—

(1) "That this meeting of Medical Delegates approve generally of the report of the Irish Public Health Council, including the outlines of the Irish Medical Service, which with the modifications suggested in the report to meet the local conditions, should meet all the requirements of an efficient health scheme for the Irish people." A rider was also adopted that in industrial areas, such as Belfast, medical benefits should be applied as in England.

(2) "That, while the meeting approves the fundamental principles of the financial suggestions of the report—viz., that in all expenditure on health service the State and the local authorities should share responsibility equally—we are not satisfied that the report contemplates an adequate expenditure on the medical services, and we desire to emphasise the fact that without adequate remuneration of medical officers, the desired result of an efficient medical service cannot be attained. That when the proposed Ministry of Health comes to formulate its scheme for an Irish medical service in consultation with representatives of the medical profession, as is suggested in the report, these representatives be directed to press this point on the Ministry."

(3) "That this meeting desires to point out that while Irish taxpayers contribute their full quota towards Treasury grants for health services in Great Britain, Ireland at present draws much less than its fair share from the common purse."

(4) "That this meeting of Delegates strongly protest against the diversion of the existing grants for the Irish Public Health Services (including portion of the salaries of Poor-law and other medical officers) to any other purpose as inflicting great hardship on the helpless sick poor, as well as depriving those responsible for their medical treatment of the necessary means to render them efficient professional services."

(5) "That the Irish Medical Committee be directed to appoint a standing subcommittee to look after the interests of the Irish medical profession in the event of medical legislation, or change in Irish Government."

(6) "That any settlement of the question of medical attendance on the Constabulary should provide in the case of the dismissal of a medical attendant that the reasons for such removal be fully stated, and, if demanded, an open inquiry should be granted."

(7) "That in any case where a doctor recently resigned his office as medical attendant on the police, owing to the unsatisfactory conditions of the service, and if the position is now held by another doctor he should resign the position if the former medical attendant is willing to resume his office."

(8) "That this resolution should also apply, in similar circumstances, to the medical attendants on postmen, coast-guards, railway employees, as well as to registrars of births, deaths, and marriages."

(9) "That this meeting of Medical Delegates is strongly of opinion that a medical referee, appointed under the scheme for the medical treatment of disabled sailors and soldiers should not be permitted to act as medical referee in the case of any patient he has treated, nor should he be allowed to issue in such cases certificates for sickness benefits under the National Health Insurance Act."

The most important resolutions are those dealing with the report of the Irish Public Health Council. Legislation is not possible at present, nor, indeed, is it desirable, for any legislation emanating from Westminster would fail to receive the coöperation of a large number of the Irish local authorities, and a scheme for reform of the health services would be stillborn. Nevertheless, it is important to have on record a thorough-going scheme which has the approval of the medical profession as regards its general principles. Ireland must at some time in the future again have a settled government, and whatever that government may be, one of its first duties will be to reform the health services and the poor-laws.

Military Inquests: Public or Private.

The Chief Secretary stated last week in the House of Commons that all inquests held by the military authorities are conducted in public. This is not the case. In the inquest on the man Lynch, killed a few weeks ago in a Dublin hotel by a party of military or police, the city coroner was prohibited from holding an inquest, and the military inquiry was held in secret, an official statement of the reasons for such a course being published, as was also subsequently a summary of the evidence and the decision of the court. In the case of another man shot more recently in a Dublin street—an ex-soldier named Robinson—no report of any inquiry has yet been made public. There may be good reason for the action of the military in these and other cases, but medical men all over the world look askance at the holding of inquests in private. Medical evidence as to cause of death should be given in public, if only for the sake of the medical witness, the exception to the rule being only where public morals are served by privacy.

HEALTH IN FACTORIES AND WORKSHOPS:

ANNUAL REPORT OF THE CHIEF INSPECTOR FOR THE YEAR 1919.[1]

THE Annual Report of the Chief Inspector of Factories is always an interesting publication, and that for last year is no exception to the rule. It records the passage of British industry from the work of the war to the activities of peace, the beating of the sword into the ploughshare.

"Factories in which aeroplanes were made are now being used for the manufacture of furniture, motor vehicles, wooden toys, &c.; a cartridge case factory is now making household hollow ware; shell factories are making such things as steam-boilers, locomotives, agricultural tractors, and milk churns; and at a factory where concrete ships were built concrete blocks for house building are now being turned out. One very large armament firm have turned their attention to the making of railway locomotives, marine engines, and boilers."

"Safety First."

The Report is composed of chapters each dealing with one important subject, a form which was foreshadowed by Sir A. Whitelegge in his report for 1914. Mr. R. E. Graves, who is now chief inspector, deals with industrial development and the state of trade; but his summary, owing to the sudden alteration in trade now occurring, has already lost some of its significance; nevertheless, the description given of the small amount of friction experienced in resuming normal work and of the way in which women made way for men discharged from the colours, must remain as an interesting record. The subject of "safety" is discussed by Mr. H. J. Wilson, who tells of somewhat disappointing results in establishing safety committees composed of operatives and officials; still, hope is held out for the future. Where committees have been started some excellent results are reported; an accident rate of 1·79 in 1909 with a committee in existence, rose during the war, when there was no committee, to 3·67 in 1916, but after re-establishing the committee it fell to 1·13 in 1919;

[1] (Cmd. 941). His Majesty's Stationery Office. 1*s.* 6*d.*

while in another case the appointment of a committee in 1918 was followed by a reduction in accidents for the year 1919 of approximately 27 per cent. as compared with the average of the previous five years. Accidents due to special causes are dealt with, but stress is in every instance laid on the part played in their occurrence by the worker as well as by his environment. Education to avoid carelessness is considered of primary importance.

Occupational Disease.

One of the most interesting developments described by Mr. G. S. Taylor, who writes concerning dangerous trades, is the introduction of artificial grindstones made of emery and carborundum to replace the old-time sandstone wheels. This development bids fair to revolutionise the cutlery trade of Sheffield, and the disappearance of silica dust arising from sandstone will, it may confidently be anticipated, eradicate the scourge of fibroid phthisis or tuberculous silicosis, thus saving many lives every year. In the potteries danger of lead-poisoning is disappearing with the increasing adoption of low solubility and leadless glazes, while at the same time much is being done by the Pottery National Council to improve general conditions and advance the welfare movement.

Mr. C. F. Wright, when discussing sanitation, quotes from Mr. J. Law, of Sheffield, who looks forward to the time—

"when the grinders will no longer sit hunched up over the grindstones, breathing in the damp and dirt in a clammy grinding hull. ..... The lack of glass in the window frames, the constant evaporation of water from the stones, troughs, and floors, combined with the bad system of ventilation and lighting and the closed-in condition in many of these places give a feeling of dampness and rawness," difficult to overcome. Already, he says, "one sees grinders wearing overalls when at work, and washing and putting on the clean collar of respectability before leaving the shop for home."

Anyone familiar with Sheffield will recognise here a social revolution. Mr. Wright speaks favourably of the introduction of cool air douches in glass works, tinplate mills, and steel works; they lessen fatigue due to heat and improve production. He tells also of advances made in the heating and lighting of factories.

The annual incidence of industrial diseases is summarised by Dr. T. M. Legge rather more shortly than usual, and he gives this year no prominence to any special subject. Possibly the author's absence in America at the International Labour Conference at Washington, and his visits to Harvard, Chicago, and New York left him but little opportunity for further investigations. His colleague, Dr. J. C. Bridge, contributes an article on a previously undescribed occupational neurosis, known in the cotton trade as "twisters' cramp." The article is interesting, but unduly condensed. No statement is made as to the number of cases seen; the exact age distribution of the condition is not given, nor is the incidence of the disease among the twisters, while the reader is even left to find out for himself which hand is affected. Dr. Bridge also writes on the progress in factories of the ambulance and first-aid movement, which would appear to be developing in a satisfactory way. Training classes to educate (and in some cases re-educate) workers as lay assistants are noted to be urgently needed.

The Welfare Movement.

A chapter written by Miss A. M. Anderson, who summarises advances made in the welfare movement, is full of encouragement. Here is reported that "in a works in the Wolverhampton district it has been seriously stated that, thanks to the efforts of the supervisor, there is no necessity to advertise for female workers. They come and ask to be employed, as they know their interests are looked after"; and that in other districts factories where welfare is well organised get the pick of the labour in the neighbourhood. Insistence on a supply of pure drinking water is reported to be leading to much needed improvement in rural water-supplies. Canteens are increasing in number, managers are appreciating their value; "the value goes into every sleeve and collar made, the truth is the girls were unfed" said one. The welfare movement is advancing least rapidly in the textile industries, which are being left behind, particularly in relation to cloakrooms and washing accommodation. Yet—

"Few people, one thinks, can have any right idea of what it is to be asked to work in a continual atmosphere of damp and dirt such as wet spinners do. Standing all day with wet feet (usually) on a damp floor, in a temperature which may be over 80° F., weighed down by a waterproof apron, is an existence far from ideal. Above the worker's head on a peg hang her shawl and skirt; her boots lie on the window sill beside her. At the sound of the whistle at 6 P.M. she hastily dons boots, skirt, and shawl, often twisting up her hair as she goes, and, unkempt and unwashed, hurries down from the hot rooms into the airy streets." Spray baths, where introduced in shale oil works, have proved an unqualified success. "Men can now go home absolutely clean, wearing their ordinary clothing, which in working hours is kept in lockers through which warm air is always circulating. It is quite obvious that the homes of the workers benefit immensely from the change, as formerly each man travelled to and from work in clothing soiled, and in the lower extremities saturated with oil."

Hours of Work.

Mr. W. Williams deals with hours of work.

"From an industrial point of view one of the most remarkable effects of the war is the general reduction in the hours of work, which now rarely exceed an aggregate of 48 a week. This reduction, which has been accomplished without legislation, and in most trades without serious friction between employers and workers, has been adopted in almost all industries. ..... As far as absence for sickness and other reasons are concerned, there seems no doubt that a shorter working day results in the worker staying out less frequently. In one large factory the average daily absentees numbered some years ago 40; now, with a 44-hour week, the average number of daily absentees has dropped to 10."

Numerous other instances of benefits resulting are given; but the shorter working day, giving as it does more free time for recreation and education, is bringing with it new problems and responsibilities to both employer and worker. Production, when it depends almost entirely on the speed of machinery, as in cotton- and woollen-spinning, is found to be reduced nearly in proportion to the reduction in hours, but when it is mainly dependent on the exertions of the worker, as in tailoring and the boot industry, either no loss occurs or an appreciable increase. The value of the multiple-shift system is carefully discussed, and we find the inspectorial staff now able to approve of a system which, owing to their representations, was prohibited by the Act of 1850; but the industrial world of 1920 is not that of 1850. Shorter spells of work are advocated, not to exceed four hours, especially for monotonous processes; the value of short breaks for refreshing the operatives and so increasing output is pointed out, and a mid-day interval for dinner longer than one hour is suggested to be advantageous.

Coöperation for the Good of Industry.

The last chapter contains a report by Mr. G. Bellhouse upon the formation of Joint Industrial Councils and Trade Boards. Much has been done in this direction, and as each Council has come into existence it has been found a useful ally to the factory department. Particularly has this been so in the pottery trade, the building trade, the boot industry, the furniture trade, the patent fuel industry, and the tin box trade. In each trade useful coöperation has been established, and the support of the trades concerned has been obtained for improvements in working conditions. More rapid advance promises to take place on these lines than through restricting attention to enforcement of compliance with the letter of the law.

SMALL-POX AT MIDDLETON.—The number of cases of small-pox notified at Middleton (Lancashire) has now increased to 33. The medical officer of health for Manchester, Dr. James Niven, has prepared for distribution a handbill, with the object of securing vigilance in regard to possible contact and infection, pointing out the advantages of vaccination and describing the early symptoms of small-pox.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of Manchester.

IN his annual report for 1918 Dr. James Niven alludes to the difficulty in arriving at a true estimate of the population, which on the normal rate of increase would have been 770,248, but on the Registrar-General's estimate of the average civil population is 665,807. There is reason for believing that the actual population of Manchester is far in excess of the latter figure, though the former may be too high. Until the results of the next Census are known it will be difficult to estimate with any degree of accuracy the population in many sanitary districts. The year 1918 in Manchester was remarkable as being the first in which the death-rate approximated to the birth-rate. This was due to two chief causes: (1) The steady decline in the birth-rate, and (2) the phenomenal death-rate from influenza. There were during the year no fewer than 2096 deaths from this disease. A well-marked decline was, however, noticeable in the mortality from tuberculosis, diarrhœa, measles, scarlet fever, and diphtheria, while the infantile mortality figure of 106·73 was the lowest rate ever recorded in Manchester.

The diminution in the number of deaths from tuberculosis is peculiarly satisfactory in view of the large amount of work at present being undertaken for the treatment and prevention of that disease. In 1918 1103 deaths were ascribed to the malady, as compared with 1196 in 1917, 1238 in 1916, 1315 in 1915, and 1257 in 1914. The number of notifications also diminished markedly.

Much dissatisfaction is at times expressed with the results obtained from sanatorium treatment, having regard to the heavy expenditure which such treatment entails. This poverty of result was anticipated in Manchester when the sanatorium movement threatened to overshadow the public health preventive aspects of the question, though it was clearly realised by those who had done practical administrative work that the success of other public health measures was dependent on the provision of a certain amount of sanatorium treatment. From the public health point of view—and the successful tuberculosis officer must be essentially a preventive man, however skilful he may be as a clinician—what want of success attends sanatorium treatment is largely due to the tendency to regard sanatorium treatment as merely a field for clinical and administrative skill. In Dr. Niven's opinion institutional treatment fails of at least half of its purpose, if frequent and systematic teaching is not given to all cases capable of receiving it, in the personal precautions necessary to render a patient harmless to his or her family and to co-workers.

The figures for this year appear to indicate that the measures of public health prevention of tuberculosis pursued in Manchester, more especially in connexion with the tuberculosis office, are bearing fruit. The more favourable aspect of these figures compared with former years may be due to the improved circumstances of the working-class population, coupled with the application of the knowledge which they have been gradually acquiring, just as the bad results of previous years may be attributable to the dislocations, distresses, and overwork during the earlier years of the war. In the combat with tuberculosis Dr. Niven lays great stress on the importance of a knowledge of how to spend available money on a suitable diet. The Manchester Tuberculosis Department has already done valuable work in this direction under the Care Committee, but Dr. Niven suggests that the Education Department might take the matter up in view of its importance to the nation in its struggle for commercial position, and even commercial existence, threatened as that is in various ways, but in none more than by the inefficiency and loss which result from sickness and physical impoverishment.

It is doubtful if we have yet reached the limits of what may be effected by way of prevention. In this connexion Dr. Niven expresses the view that the Home Office might take steps to safeguard workers from breakdown due to tuberculosis, and others from infection, by a requirement that all workers shall undergo a physical examination on commencing work. Such an examination would give reasonable security that tuberculous persons do not enter employments unsuited to their disease. Subsequent examinations at stated intervals, say of five years, would also be useful in order to continue the supervision. Were this done much of the present loss of life might be prevented, as might also much of the infection conveyed to co-workers and relatives.

It is interesting to note that the municipalisation of the milk-supply is under the consideration of the Manchester corporation.

In August, 1918, a subcommittee of the Sanitary Committee was set up to consider and report upon the advisability or otherwise of establishing a scheme for the wholesale and retail distribution of milk by the corporation. The medical officer of health was directed to prepare a report showing the present condition of the milk-supply in the city and its bearing on the health of the inhabitants, and also on the effect of an impure and adulterated supply on the health of the people. The legal and financial side of the matter also received careful consideration. The investigations of the Committee are now completed and a report on the subject will, no doubt, be published. Manchester has always adopted a very enlightened policy in connexion with its milk-supply, and we shall look forward with interest to learning the considered opinions of the Committee on so important a matter.

An account of an outbreak of antimony poisoning resulting from the use of self-raising flour, and of certain observations by Dr. W. A. Young, one of the assistant medical officers of health, on the conveyance of anthrax to cattle through the agency of infected bags containing feeding-stuffs, are other interesting features of the Manchester Health Report for 1918.

County Borough of Portsmouth.

Dr. A. Mearns Fraser in his annual report for the year 1919 shows that the health returns for the period under review were of a very satisfactory nature. In only two large towns in the country—namely, Croydon and Cardiff—was a lower general death-rate recorded, while the Portsmouth infantile mortality-rate of 71 deaths per 1000 births was the lowest of any town of similar size. The death-rate from pulmonary tuberculosis was 0·88 per 1000, which is the lowest yet recorded in the borough. A further record was established in that there was not registered a single death from typhoid fever during the year.

The report contains reference to some interesting remarks made by Dr. James Fairley, the chief tuberculosis officer, as a result of a survey of the anti-tuberculosis work in the borough since 1912, when the tuberculosis dispensary was started. Dr. Fairley lays stress on the necessity of more beds being made available for advanced cases of the disease, and states that insufficient attention is given to the prevention of tuberculosis. Under the National Health Insurance Act sanitary authorities are compelled to spend too large a percentage of energy and money in providing for treatment. Apart from improved housing and other general improvements the separation of advanced infective cases is the most important preventive measure, and it must be provided before any considerable lessening of the tuberculosis death-rate can be expected. Speaking of the results obtained from sanatorium treatment, Dr. Fairley states that after six and a half years less than one case in six is alive, and the question naturally arises, Would the result have been any worse had no treatment whatever been provided? Treatment effects some immediate improvement in the majority of cases, but the ultimate results are far from satisfactory. The death-rate of tuberculosis is not affected to any extent by treatment, and there will be no substantial reduction in it until more effective preventive measures are adopted.

Dr. Fraser expresses agreement with most of Dr. Fairley's opinions on the subject. Sanatorium treatment has, in his view, never met with any great success in connexion with consumptives who have to earn their own living. Unfortunately any improvement effected by sanatorium life has usually proved to be of a transient nature and soon disappears when the patient returns to his ordinary work. In dealing with tuberculosis our greatest hope of success would appear to be in the prevention or the spread of the disease from patients in an infective condition, and by taking active steps against overcrowding, unhealthy homes, unhealthy conditions of employment, and those conditions of life which foster the disease. We think there is much force in the views on this subject expressed in Dr. Fraser's annual report, and that comprehensive inquiry by the central health authority into the results achieved by the methods adopted by sanitary authorities in connexion with schemes for the prevention and treatment of tuberculosis is long overdue.

As a result of recommendations made by Dr. Fraser to the Sub-Health Maternity and Child Welfare Committee

a lying-in hospital has recently been provided in Portsmouth. As the cost of erecting a new hospital would have been prohibitive, it was decided to rent and adopt some suitable building as a temporary measure and premises were secured that lend themselves extremely well to the purpose. The provision of a maternity hospital, although at present it only contains 13 beds, marks a considerable advance in the maternity and child welfare administration in Portsmouth. Dr. Fraser expresses the hope that it will be followed in due course by other institutions already suggested by him in a special report to the Committee, as it is doubtful if there is any part of public health work more satisfactory in its results to the community and the nation than careful attention to the health and well-being of the rising generation. The expenditure on child welfare and maternity work is trifling compared with the good results which have already been secured in Portsmouth.

County Borough of Blackpool.

The population of Blackpool in 1919, as estimated by the Registrar-General, was 67,842, as compared with 58,371 at the 1911 Census. The death-rate was 15·46 per 1000, as compared with 13·8 in England and Wales, 13·8 in the 96 great towns, 12·6 in the 148 smaller towns, and 13·4 in London. The birth-rate for the year on the gross population was 11·84 per 1000, which, apart from the years 1917 and 1918, is the lowest rate ever recorded in the borough. The infantile mortality-rate was 96·8 per 1000 births, as compared with 110·5 in 1918.

The incidence of scarlet fever during the year was low, there being only 95 cases, and no deaths resulted from the disease. There were 74 cases of diphtheria, 3 of which had a fatal termination. Cases of measles numbered 369, this being the lowest incidence of the malady since 1907. Six cases of enteric fever were notified, all of which recovered. Influenza was very prevalent at the commencement of the year, and 96 deaths from the disease occurred, 86 of which were residents, while the remaining 10 were visitors. Fifty-two cases were removed to the isolation hospital for treatment. The administrative measures for dealing with the epidemic comprised: (1) Isolation and treatment at the isolation hospital, which imposed a great strain upon the accommodation and on the nursing staff; (2) provision of nursing and medical assistance to necessitous cases treated at home; and (3) the issue of posters and leaflets conveying instructions upon "precautionary measures." Eighty-two cases of malaria were notified during the year. Careful inquiries were instituted and in each instance it was found that the infection had been acquired abroad. Nine cases of dysentery were notified in men who had served in the army abroad, where the disease had been contracted.

Borough of Royal Tunbridge Wells.

The borough is situated on a range of low hills and valleys sloping mostly toward the hollow in which the historic mineral springs take their origin. It lies in the extreme south-west corner of Kent, 34½ miles from London, one parish being actually situated in the county of Sussex, though taken for administrative purposes along with the rest of the borough as belonging to Kent. The altitudes vary from 200 ft. in the Springs Valley to 500 ft. at Pembury-road. The variations in altitude and in aspect render the climate comparatively bracing or comparatively sheltered according to the situation selected.

The total amount of sunshine recorded in 1919 was 1394 hours 48 minutes. The highest temperature in the sun was 142° on August 17th, 1919. The borough is largely a residential centre, in which persons of means and leisure spend the later years of their lives. It is also a popular holiday resort. The population for 1919, as estimated by the Registrar-General, was for birth-rate 35,859, and for death-rate 34,423. The birth-rate was 13·4 per 1000, as compared with 11·9 in 1918. This rate is still considerably below the average for the ten years 1910 to 1919. It is to be hoped that now that war conditions, involving absence of a considerable portion of the young adult population, have disappeared the birth-rate may be restored to something like its level of ten years ago, which was at least 16 or 17 per 1000 of population. Thirty-two deaths of infants under 1 year of age occurred, giving a mortality of 66·8 per 1000 births. Premature birth accounted for 47 per cent. of these deaths. The number of deaths from all causes was 479, giving a crude death-rate of 13·9 per 1000. The zymotic death-rate was 0·2 per 1000 of the population; the death-rate from phthisis 0·87 per 1000 living; and the death-rate from all forms of tuberculosis 1·16. Thirty cases of malaria were notified from March 1st, the date on which the disease became notifiable. None were indigenous, but it should be mentioned that the mosquito, *Anopheles maculipennis*, exists in the neighbourhood of Tunbridge Wells and has been caught by Dr. F. C. Linton, the medical officer of health, in the autumn of 1919 on the walls of his house in Rusthall. In this connexion Dr. Linton, very properly, alludes to the fact that the anopheles is a malaria carrier and can be recognised by the long fine central proboscis protruding from its head, and its spotted wings, and also from its habit of resting at an angle from the wall or ceiling—namely, with its nose to the wall and not parallel with the wall like the common house mosquito or the housefly. Its favourite resting-place during the summer months, when it sucks human blood, is a dark corner of the ceiling during the day-time, when it seldom or never bites, but at dusk and during the night it becomes active until it has fed.

In reference to work connected with maternity and child welfare, Dr. Linton states that the infant consultation centre, which started work in 1914, has been expanded to meet as far as possible the further requirements included under the Maternity and Child Welfare Act pending the carrying into effect of the recommendations which were made by the medical officer of health immediately upon his return to civil duties in April, 1919. Dr. Linton then reported that the two chief needs of the borough were: (1) the establishment of a maternity and child welfare centre at which expectant mothers and infants, and children up to five years of age, could receive advice and treatment, apart from such treatment as requires medical attention at their homes. (2) The establishment of a lying-in home to which mothers living in unsuitable surroundings could be transferred for confinement on payment of a small fee according to their social circumstances. A committee of ladies has taken the matter up and is endeavouring to raise a sufficient sum to start the home under the administrative supervision of the borough medical officer of health. Suitable premises for the maternity and child welfare centre were secured during the year, and they are now being adapted for the purpose. An additional nurse has been obtained to superintend the work of the centre and to visit children under school age as well as mothers and infants.

URBAN VITAL STATISTICS.

(Week ended Oct. 23rd, 1920.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at nearly 18 million persons, the annual rate of mortality, which had been 11·0, 10·9, and 10·7 in the three preceding weeks, rose to 10·9 per 1000. In London, with a population of nearly 4½ million persons, the annual death-rate was 10·2, or 0·4 per 1000 above that recorded in the previous week, while among the remaining towns the rates ranged from 3·7 in Walthamstow, 5·5 in Wallasey, and 5·9 in Ilford, to 18·4 in Blackpool, 19·5 in Warrington, and 21·5 in Stockton-on-Tees. The principal epidemic diseases caused 290 deaths, which corresponded to an annual rate of 0·8 per 1000, and comprised 193 from infantile diarrhœa, 50 from diphtheria, 20 from measles, 18 from scarlet fever, 8 from whooping-cough, and 1 from enteric fever. Measles caused a death-rate of 2·1 in Warrington and 2·4 in Bath. The deaths from diarrhœa, which had been 208, 226, and 207 in the three preceding weeks, further fell to 193, and included 36 in London, 19 in Liverpool, 14 in Hull, and 11 in Sheffield. There were 4859 cases of scarlet fever and 2113 of diphtheria under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, against 4534 and 1975 respectively at the end of the previous week. The causes of 31 of the 3725 deaths in the 96 towns were uncertified, of which 11 were registered in Birmingham and 3 in Gateshead.

Scottish Towns.—In the 16 largest Scottish towns, with an aggregate population estimated at nearly 2½ million persons, the annual rate of mortality, which had been 12·1, 12·8, and 11·5 in the three preceding weeks, rose to 12·1 per 1000. The 270 deaths in Glasgow corresponded to an annual rate of 12·7 per 1000, and included 9 from infantile diarrhœa, 3 from diphtheria, and 1 each from enteric fever and measles. The 71 deaths in Edinburgh were equal to a rate of 10·8 per 1000, and included 3 from diphtheria and 1 from whooping-cough.

Irish Towns.—The 120 deaths in Dublin corresponded to an annual rate of 15·1, or 0·6 per 1000 below that recorded in the previous week, and included 8 from infantile diarrhœa, 2 from whooping-cough, and 1 each from scarlet fever and diphtheria. The 106 deaths in Belfast were equal to a rate of 13·4 per 1000, and included 6 from infantile diarrhœa, 4 from diphtheria, and 2 from scarlet fever.

LITERARY INTELLIGENCE.—Messrs. Christophers are publishing at an early date a book by Mr. A. H. Tubby entitled, "A Consulting Surgeon in the Near East." The work details the experiences of a consulting surgeon in Gallipoli and Egypt from 1915–1919.

Correspondence.

"Audi alteram partem."

THE HOT-WIRE MICROPHONE.

To the Editor of THE LANCET.

SIR,—In THE LANCET published Oct. 9th you include under the heading "New Inventions" an article on experiments in connexion with the Electrical Recording of the Pulse by Professor A. V. Hill. It is of interest to record that Lieutenant (now Major) Tucker, R.E., carried out a similar experiment in the field in Flanders in September, 1916. As this experiment was closely connected with the work on which Lieutenant Tucker was then engaged, he was not allowed to publish his results for fear of giving away information. The records taken on this occasion are still in existence. Work has gone on intermittently on the instrument and has recently been authorised by the Army Council.

Major Tucker has applied for permission to publish a paper on "The Hot-Wire Microphone," and it is hoped that publication will follow shortly and may be of use.

I am, Sir, yours faithfully,

A. G. STEVENSON,
Colonel; President, Central Engineering Board.

War Office, Embankment Annexe, S.W., October, 1920.

To the Editor of THE LANCET.

SIR,—I have seen a copy of Colonel Stevenson's letter, and am glad that he is pointing out, what I did not know until a few weeks ago, that Major Tucker employed his hot-wire microphone as early as 1916 to record the pulse. I was, of course, aware—like many scientific people—of the existence and properties of the microphone, and should have referred to it in my article of Oct. 9th had any published account of it been available. I was quite unaware, however, that it had ever been employed to record the pulse or the heart beat in a manner analogous to that described in my article. It is a matter for congratulation that the War Office is now allowing Major Tucker to publish an account of this extremely valuable and interesting instrument, and is authorising him to continue his experiments on a method which promises to prove of great value in physiology and medicine.

I am, Sir, yours faithfully,

A. V. HILL.

Physiological Laboratory, The University, Manchester, Oct. 25th, 1920.

"THE RIGHT TO STRIKE."

To the Editor of THE LANCET.

SIR,—The following paragraph appeared in the *Daily Herald* on Oct. 21st:—

CALLOUS DOCTOR

Refused Treatment to Sick Miner on Strike.

From Our Own Correspondent.

COWDENBEATH, Wednesday.—Gallagher, at Cowdenbeath, told his audience of a miner who went to a professor for treatment for his legs this week.

In answer to questions, he said that he was a Fife miner on strike, whereupon the professor replied that he also was on strike, and refused treatment. The incident is causing much indignation.

More information is required to justify the offensive title to the anonymous correspondent's communication. Was the gentleman a doctor? "Professors" who give "treatment for legs" in industrial circles do not always possess qualifications. Was this "professor," whether qualified or no, "callous"? Treatment for legs can often be relegated to more convenient seasons without any harm occurring. What was the matter with the miner's legs?—I am, Sir, yours faithfully,

M.D.

*** The suggestive play "The Right to Strike" led us recently to make some observations on the position of the medical man who refuses professional service on principle, and we have since invited Dr. Alfred Cox, the Medical Secretary of the British Medical Association, and Dr. Welply, the General Secretary of the Medico-Political Union, to give our readers the advantage of their views. Their courtesy has led to the following interesting letters.—ED. L.

To the Editor of THE LANCET.

SIR,—I found "The Right to Strike" most interesting. One could probably pick many holes in it as a piece of craftsmanship, and some of the "local colour" on the medical side was absurdly wrong. But it raises questions of great interest to every citizen and particularly to doctors, and the acting is, on the whole, excellent. I make an exception of the alleged representative of the "Medical Association," who is a most futile person, though I do not think the author intended to convey that impression. I present the author with a suggestion that would, I think, add greatly to the interest of the play. After listening as long as he can stand it to the inanities of the "Solicitor of the Medical Association," one of the doctors should murder that individual in full sight of the audience. This would be regarded as justifiable homicide by all. Gas poisoning would be suitable.

Now as to the main question raised by the play. I have always held that in this country a *real* strike by doctors is almost unthinkable. The idea of actually withholding service from one's own patients—people you may possibly have known since birth—revolts every professional instinct. Medical men in this country are very unlikely to deviate from the line they have always taken in industrial disputes—namely, to go on with their work, giving their services to all, irrespective of class or politics, though holding their own opinion as strongly as any other member of the community about the merits of the parties to the dispute. But I do not say that a refusal to serve would in *any* circumstances be wrong. If I were practising in a country cursed with a set of bloodthirsty scoundrels who had temporarily got the upper hand and who declared their intention of wiping out the "bourgeois" class to which I belong, I should think it quite right to decline to give my services to anybody expressing that intention. In the words of Clough, "Thou shalt not kill, but needst not strive officiously to keep alive." But even as regards people of this class, the doctor's only chance of sticking to a resolution, which would, in my opinion, be quite justifiable, would be to clear out of one's own neighbourhood. No medical man who remained amongst his own people could, I think, persist in refusing his services if faced by a real emergency such as occurred in the play. It would be illogical to give them, for "what is sauce for the goose is sauce for the gander," but after all logic has very little to do with most of our actions.

I am, Sir, yours faithfully,

ALFRED COX,
Medical Secretary, British Medical Association.

Oct. 11th, 1920.

To the Editor of THE LANCET.

SIR,—The production of a play dealing with a refusal of practitioners to render medical attendance and treatment is indicative of an appreciation of possibilities. Unfortunately I have not yet found the time to see the play, but I hope to do so in the near future. My observations must, therefore, be confined to your description[1] and to the critiques which have appeared elsewhere. I think that the title is appropriate on the ground that the right to strike applies equally to all sections of the community; but it is difficult, in my opinion, to apply the word "strike" to a withholding of services for no other reason than a reprisal. The members of the medical profession in the district affected by a sectional railway strike quite naturally determine to make stupendous efforts to permit the local infirmary to continue its beneficent work. They, apparently, have no grievance until, in consequence of a most disgraceful and reprehensible act on the part of

[1] THE LANCET, Oct. 9th, p. 757.

certain of the strikers, one of their numbers is killed. Thereupon it is decided to deny medical help to the strikers and their families. Whatever may be said of their action in combating the strikers, it comes as some surprise to learn that the dependents—many of whom might already be suffering through the stoppage of work—are to be vicariously punished. Such an attitude of mind is not generally associated with the medical profession, and I feel that it does not reflect our outlook on men and things.

The denial of medical attendance and treatment soon takes a dramatic turn, and the strike leader is brought face to face with the grim tragedy of reprisal when he finds his own wife's life in danger. Can it be wondered at that the family doctor secedes from the medical "strike"? Sympathy with human suffering, and a resolve to alleviate it, are the principal characteristics of the general practitioner, and vicarious punishment as a reprisal is a heavy price for his conscience. The surgeon, however, feels the loss of his friend very profoundly, and so he hesitates, but ultimately capitulates on the urgent pleas of the deceased doctor's young widow. His capitulation, however, would hardly have seemed to necessitate any persuasion, because the strike has terminated; but possibly *he* intended that the strikers should, after their nefarious act, be for ever deprived of medical help! As to the removal of his name from the Register, I can only say that if he had had any support at all such an action would have precipitated a complete dislocation of the medical services, and would doubtless have brought about a statutory amendment of the functions of the General Medical Council by the passing of a Medical Disputes Act.

May I take this opportunity of expressing my thanks to you for giving publicity to this question? There exists in the profession a mistaken notion of the use of the word "strike." A few years ago my union, which has primarily the interests of the panel profession at heart, made a pronouncement on the subject, and perhaps you will permit me to reiterate it by pointing out that we cannot but regret that the word inevitably calls into being a world of ideas and feelings indissolubly associated with a certain type of industrial warfare. To-day no organised cessation of labour can hope to escape from this ill-defined designation. Yet every attribute, which in an industrial strike has led, rightly or wrongly, to the creation of popular prejudice, is absent from any organised resistance which is open to panel politics. In the fact that the striker endeavours to reach his purpose by imposing suffering or loss upon others is to be discovered the disfavour in which he is so generally held.

1. He threatens his employer with financial ruin by rendering idle his capital, plant, or machinery, and by undermining the stability of his market.
2. He threatens the public by depriving it of a necessary commodity or of an indispensable service.
3. He may use the language of intimidation towards imported labour if he does not give employment to illegal violence.

When the ideas latent in the word "strike" are thus frankly brought into the light it will be seen that no one of them can in fairness be attached to an organised panel resistance. The work which the panel profession is now conducting under Government control was previously carried on by the same men in their private capacities. If Government control cannot be brought into accord with the well-being of the medical profession, the sick are not to be neglected nor are the finances of the Government to be endangered. Nothing more violent is proposed than a dignified and united return to practice. That the power to take this step will be of immense assistance to us in developing the Insurance Acts or in preventing aggression cannot be questioned. It should never be forgotten, however, that the undoubted possession of this power will grant to us an immunity from the necessity of bringing it into full employment.

I am, Sir, yours faithfully,

A. WELPLY,
Editor, *Medical World*.

Gray's Inn-square, W.C., Oct. 13th, 1920.

TEMPORARY OR PERMANENT PENSIONS.

To the Editor of THE LANCET.

SIR,—The question of granting permanent pensions, as pointed out in your annotation in THE LANCET of Oct. 23rd, is, of course, an important one both to the individual and to the State. In the case of unscheduled injuries, such as a damaged hand, it is not always kept in mind what the capital value of a permanent pension really means. A man at the age of 20 has an expectation of life of 40 years. At current rates a 20 per cent. pension amounts to 8*s*. a week, or roughly £20 a year. The granting of a life pension to such a man would mean, on ordinary expectations, £800. Under the Workmen's Compensation Act no employer or insurance company would agree to pay a weekly sum for life, simply because experience has proved that whilst the condition may be a permanent one the disability arising therefrom may not be permanent.

I am, Sir, yours faithfully,

Royal Hospital-road, Chelsea, S.W., Oct. 24th, 1920. J. J. SCANLAN.

NODULAR LEPROSY.

To the Editor of THE LANCET.

SIR,—All the cases of nodular leprosy in this asylum present on examination areas of skin where the temperature sense is lost, although there may be no macules, infiltrations, or nodules in the affected areas, nor can any gross signs of disease be detected in the nerves to these skin areas. This sign is found in one or more toes or over the dorsa of the feet in all the cases of nodular leprosy I have examined. As a case of nodular leprosy improves under treatment all symptoms may clear up, but the last to disappear is the loss of temperature sense in the feet. I suggest, then, that there is no such thing as a case of pure nodular leprosy, but that all nodular lepers, if carefully examined, will show signs of nerve affection apart from obvious nodules, infiltrations, or macules; and conversely that thermanæsthesia of toes or feet is a constant symptom of nodular leprosy.—I am, Sir, yours faithfully,

PHILIP HARPER,
Medical Superintendent, Makogai Leper Asylum, Fiji.

August 25th, 1920.

CONGENITAL DISLOCATION OF THE HIP.

To the Editor of THE LANCET.

SIR,—In the last issue of THE LANCET, in the report of the discussion on the opening address on this subject by the President of the Subsection of Orthopædics, Royal Society of Medicine, I am reported as having said that "Arthritis so frequently followed open operation as to suggest that it was caused by infection." This does not agree with what I said, and gives such a false impression with regard to the frequency of arthritis after open operation, that I shall be obliged if you will allow me the opportunity of correcting the statement.

What I intended to say, and what I believe I did say, was: "The fact that arthritis is commoner after open than after manipulative reduction, even though the wound in the former heals by first intention, rather suggests infection as the cause." Fortunately, open operation is *not* frequently followed by arthritis.

I am, Sir, yours faithfully,

Harley-street, W., Oct. 25th, 1920. H. A. T. FAIRBANK.

BENZYL BENZOATE IN ASTHMA.

To the Editor of THE LANCET.

SIR,—Your annotation (Oct. 16th) on benzyl benzoate refers to it as a new remedy. This is not so in the medicinal sense, as (according to the "Pharmaceutical Codex") it forms from 30 to 40 per cent. of the balsam of Peru and about 6 per cent. of the balsam of tolu. For many years I have recommended and used the balsam of Peru in cases of chronic bronchitis, many of which possess a spasmodic element, ascribing the beneficial effects of the balsam in considerable measure to the benzyl benzoate.[1]

[1] Brit. Med. Jour., vol. i., 1908, p. 370.

But if benzyl benzoate acts peripherally as a sedative to smooth muscle, it is obvious that in such a condition as asthma it can only be of temporary assistance in certain cases, and is in no sense curative. Asthma is due to a protein or proteose intoxication, and the most successful method of dealing with it is that of immunisation by means of proteoses. Elsewhere I have described how this immunisation may be carried out by peptone injections. The dose of benzyl benzoate is about equivalent to that contained in 15 minims of the balsam of Peru, but one has grave doubts as to its efficacy generally, as compared with adrenalin, &c.

I am, Sir, yours faithfully,

London, W., Oct. 16th, 1920. A. G. AULD.

*** The first reference in Martindale and Westcott's "Extra Pharmacopœia" (1920) to benzyl benzoate *as a remedy* is dated 1919. Benzyl esters have long been recognised in pharmaceutical manuals as ingredients of Peruvian balsam. Dr. Auld, in the article which he quotes, appears to speak of the effect on bronchial cells of the volatile oils and organic acids contained in the balsam, simply mentioning the benzoic ester as one of these oils.—ED. L.

The Services.

ROYAL ARMY MEDICAL CORPS.

Temp. Capt. W. Angus relinquishes the acting rank of Lieut.-Col.

The undermentioned relinquish the acting rank of Major:—Capts. L. B. Clarke, C. Nicholson; temp. Capt. H. A. Tillman.

Capt. and Bt. Major J. D. Bowie to be acting Major.

The undermentioned to be temporary Captains: C. E. Hibbard (late temporary Captain), S. A. McClintock (late temporary Lieutenant), H. E. M. Baylis (late temporary Captain).

Capt. D. G. Evans, late R.A.M.C., Spec. Res., and Temp. Capt. R. S. Strachan to be Lieutenant, and to be temporary Captain.

C. P. Ruel to be temporary Lieutenant.

Officers relinquishing their commissions:—Temp. Major W. H. G. Aspland (granted the rank of Lieutenant-Colonel). Temp. Capt. R. A. Steven (granted the rank of Major). Temp. Capt. (Bt. Major) W. B. Purchase (retains the Brevet rank of Major). Temporary Captains retaining the rank of Captain: N. N. Haysom, A. W. Popert, J. J. Foley, P. P. Galea, T. S. Paterson, W. K. Bigger, R. W. Brown, G. N. Brandon, E. H. Jones, H. R. Mayo, A. G. Welsford, J. Byrne, H. L. Sells, J. L. Stewart, H. Blundell, H. J. Cundell, P. H. S. Smith, J. C. Davies, G. V. Allen, G. G. Ferguson, J. H. Moore, C. F. Strange. Lieut. F. D. Ross-Keyt. Temp. Lieut. G. R. Waller (retains the rank of Lieutenant).

SPECIAL RESERVE OF OFFICERS.

The undermentioned Captains relinquish their army commissions on appointment to permanent commissions in the R.A.F.:—K. Biggs, W. W. Shorten, R. E. Bell, F. J. Murphy, D'A. Power.

TERRITORIAL FORCE.

Major B. Addenbrooke, from T.F. Res., to be Major.

Captain J. H. P. Fraser, from 5th Southern General Hospital, to be Captain. G. Bailey (late Captain, R.A.M.C., T.F.) to be Captain.

ROYAL AIR FORCE.

Flying Officer T. H. K. MacLaughlin to be Flight Lieutenant.

INDIAN MEDICAL SERVICE.

Major R. S. Kennedy to be temporary Lieutenant-Colonel.

Captains to be Majors: Ram Nath Chopra, H. Stott, Abdus Sattar Khan, Maneck Dhunjishaw Wadia, T. D. Murison, A. J. Symes.

Captains to be temporary Majors: D. Coutts, T. A. Hughes, J. A. Stinton.

Temp. Hon. Capt. Dhanjibhoy Pestonji Sethna to be temporary Honorary Major.

Cols. C. R. M. Green and J. Garvie have been appointed Honorary Surgeons to the King.

THE HONOURS LIST.

The following appointments to the Most Excellent Order of the British Empire, for valuable services rendered in connexion with military operations in the countries detailed, are announced:—

C.B.E.—Lt.-Col. H. S. Roch, C.M.G., D.S.O., R.A.M.C. (South Russia).

O.B.E.—Temp. Capt. (acting Maj.) H. G. Hobson, M.C., R.A.M.C. (Black Sea); acting Maj. W. Anderson, R.A.M.C. (Salonika).

MENTIONED IN DESPATCHES.

The names of the following are to be added to those given in THE LANCET of August 17th, 1918, p. 221, as being brought to the notice of the Secretary of State for War by Lt.-Gen. Sir J. L. van Deventer, K.C.B., for distinguished services during the operations in East Africa from May 30th, to December, 1917:—Lt.-Col. A. C. Adderley, D.S.O., R.A.M.C.; Capt. (acting Major) A. McW. Green, D.S.O., S.A.M.C.; Temp. Major (acting Lt.-Col.) T. M. R. Leonard, D.S.O., Spec. List and Med. Serv., W.A.F.F.; Lt.-Col. T. Smyth, D.S.O., S.A.M.C.

TERRITORIAL DECORATION.

The King has conferred the Territorial Decoration upon the undermentioned officers:—

Army Medical Service.—Col. A. M. Connell (retired).

Royal Army Medical Corps.—Lieut.-Col. F. Whalley, 2nd West Riding Field Ambulance; Lieut.-Col. C. W. Eames, attached 2nd West Riding Field Ambulance; Major John O. Summerhayes, 1st South Midland Field Ambulance.

Obituary.

PROFESSOR WEICHSELBAUM.

THE death occurred on Oct. 22nd of Dr. Anton Weichselbaum, Emeritus Professor of Pathological Anatomy in the University of Vienna, and Member of the Academy of Sciences, at the age of 75.

Anton Weichselbaum became interested in pathology soon after qualification, and in 1877 published a paper on senile changes in joints and their connexion with arthritis deformans. He then turned his attention to bacteriology for a while, and it was his work in 1886 which threw considerable light on the ætiology of pneumonia, then being much discussed. In the course of a detailed investigation of 129 cases of various types of pneumonia he isolated first a coccus which he named the *Diplococcus pneumoniæ* (with a variant called by him the *Streptococcus pneumoniæ*), which was seen to correspond with the organism previously described by A. Fraenkel. Less frequently he found a bacillus which appeared identical with that originally observed by Friedländer four years before. Professor Weichselbaum published a review of the present position of bacteriology and of its bearing on the practice of medicine in 1887, and in the same year he discovered and described the causal organism of cerebro-spinal fever, having isolated it from the meningeal exudate of cases of meningitis occurring in epidemic form in Vienna. The *Diplococcus intracellularis meningitidis* of Weichselbaum was not accepted without criticism, especially from G. Jaeger, J. O. L. Heubner, and others, but the Gram-negative meningococcus is now almost universally accepted as the causal organism of cerebro-spinal fever. Weichselbaum's "Elements of Pathological Histology" was translated into English by Dr. W. R. Dawson, and was welcomed as a clear and concise exposition of practical methods.

It was in 1885 that Weichselbaum succeeded Carl Rokitansky in the chair of pathological anatomy, remaining on the active staff of the University until last year, when he was appointed emeritus professor. In 1912 he was elected to the highest honour in the gift of his University, being installed as Rector Magnificus for the year. On this occasion he delivered an address on the inter-relation of bodily constitution and disease, the heredity of predisposition to disease, and the causes of racial degeneration. He attributed the latter mainly to an educational system which overtaxed the mental capacity of individuals during the period of growth, to the abuse of alcohol, and to the prevalence of syphilis and tuberculosis. His plea for freedom in scientific investigation, in order to enable the social economist to eradicate these factors, was eloquent and had an echo outside his own country. Weichselbaum was a great investigator and teacher of a type with which Vienna abounded a generation ago.

JOHN NACHBAR, M.A., M.D. CANTAB.,

FORMERLY MEDICAL SUPERINTENDENT, ST. GEORGE'S HOSPITAL, AND DEPUTY SECRETARY AND EDITOR OF PROCEEDINGS, ROYAL SOCIETY OF MEDICINE.

THE death of Dr. John Nachbar removes a man whose work at the Royal Society of Medicine made him known and respected by a large number of medical men. He was born in Bradford in 1867 and educated at the Bradford Grammar School. From there he took a scholarship at Clare College, Cambridge, and graduated as fourteenth Wrangler in 1888. The comparatively little effort with which he took this high place in an honours tripos was evidence of those mental powers that showed themselves in later life in any task which he undertook—powers which, had it not been for the constant drag of ill-health, would have lifted him to a high position in whatever walk of life he had trodden. From Cambridge Nachbar went to St. George's Hospital, where he passed in due course through the resident posts.

It was during post-graduate study in Vienna that the symptoms first showed themselves of that affliction which from now onwards crippled all Nachbar's

activities. For some years he resided in various health resorts in Europe and America, and in 1905 he thought himself well enough to occupy the post of medical superintendent at St. George's, to which he was chosen over other strong candidates. In his tenancy of this office he exercised a judgment, sense of justice, and administrative power which impressed everyone with whom he was brought into contact. Two years later, when the amalgamation of the medical societies of London was agitating the minds of many of the leaders of the profession, Nachbar was offered the post of secretary to the amalgamation committee. Of the many who enjoy the benefits of the present Royal Society of Medicine, few know how greatly they are indebted for its very existence to the fact that Nachbar was secretary to the committee which brought the society into being. He was seen by all those working for the scheme to possess a just, keen, and logical mind, unprejudiced towards any one of the coalescing bodies, and his opinion was as highly valued as later it was eagerly sought, when he edited the Proceedings. The Proceedings and the difficulty of making it possible for each section to have its own were the stiffest obstacle to amalgamation. It was largely due to Nachbar that the Proceedings were not only made possible but were so managed that they rapidly took a foremost place among periodical medical publications. After five years of this editorship Nachbar returned to his old hospital and was medical superintendent at St. George's from 1913 throughout the years of the war. Towards the end of this time it was plain to all his friends that he ought to leave London, but he was determined to stay at his post till peace came. Afterwards his health steadily deteriorated, and he returned hurriedly from the Riviera to die in the country home of his constant friend Dr. Arthur Latham.

All those who knew Nachbar well recognised in him a brain of unusual power. He had a finely balanced mathematical mind. When he turned this to light pursuits it made him a master of such games as chess and bridge and the solution of problems in these and similar fields. He loved music, of which he was a fine critic and good exponent, having a talent for reading at sight which he exercised till he could play at once a complicated score as easily as another man reads a novel. The drama was another hobby and there were few modern plays on which Nachbar could not pronounce a criticism showing insight and keen reasoned appreciation of the author's work. Nachbar was a man who loved many of the best things that life can offer. Among these he loved his friends and there is not one of them who was not in turn imbued with love as well as admiration for him. His death leaves many sadder.

JESSIE MARGARET MURRAY, M.D., B.S. DURH.

THE death of Dr. Jessie Murray on Sept. 25th, after a long and painful illness, removed from many fields of activity a brilliant and many-sided personality. She qualified in 1909 at a time when medical women had not the facilities for post-graduate work now available, and it was characteristic of her that when she settled in practice she lost no opportunity of equipping herself by special studies. She was quick to perceive the psychological element in many cases of illness brought to her notice, and her insight into this important factor rendered her advice of special value. With a view to the discovery of a scientific framework for these early successful attempts at psychotherapy, she took up the study of psychology at University College, London. Her ingenuity and resource in adapting to the needs of her patients the fruits of vocational psychology enabled her successfully to attack vocational misfits and domestic disharmonies. From a study of Janet's methods in Paris she passed to the methods of the psychoanalytic school, and she was the leading spirit in the group which founded the Medico-Psychological Clinic in Brunswick-square, London. Her desire to extend the scope of the newer psychology did not, however, stop at its purely medical applications; she was equally anxious for its data to be brought within the reach of students in educational and sociological fields, and she took a part in the establishment of the Society for the Study of Orthopsychics. One of her most keenly cherished aims was to establish a working entente between the physician and the psychologist in the no man's land where their interests touch. During the war she shouldered heavy additional responsibilities entailing long hours and exhausting work, and it is probable that this period of strain was partly responsible for her untimely death.

WILLIAM BRUCE, M.D. ABERD.

Dr. William Bruce, late medical officer of health for Ross-shire and Cromarty, and formerly Direct Representative for Scotland on the General Medical Council, died at Dingwall on Oct. 26th at the age of 85.

Dr. Bruce qualified M.D. at King's College, Aberdeen, in 1858, and became L.R.C.S. Edin. in the same year. He was at one time an examiner in public health for the University of Aberdeen. The ætiology of sciatica was a subject in which Dr. Bruce was especially interested, and his view that this is essentially a disease of the hip-joint was brought out clearly in a book published by him in 1913 entitled "Sciatica: a Fresh Study." Early in 1914 Dr. Bruce was confined to bed, and when weary of fiction and poetry devoted the spell of unaccustomed leisure to the reading of current medical literature. His appreciation of the contents of our columns was conveyed to us in a charming letter which we published at the time, and it is thus no affectation to say that by his death THE LANCET has lost a valued friend.

THE LATE DR. SAMUEL SLOAN.

A BRIEF biography appeared in our issue of last week. Dr. Agnes Savill sends the following personal notes of his strenuous and useful career:—

"With the death of Dr. Samuel Sloan there has passed away a great figure in medicine, a unique personality unforgettable alike by his patients and friends. Dr. Sloan began as a general practitioner, and his sympathy with the sufferings of women led him to specialise in gynæcology. He soon found that for many chronic affections surgery was the sole remedy, and even operation did not always cure. Electricity had long been his favourite hobby, and at a time when it was in disrepute as a serious therapeutic agent, Dr. Sloan began to try its effects on the chronic misery endured by so many young married women. He worked alone, unaided; against the advice of friends and colleagues he persevered, experimenting, testing, and perfecting his methods. When the Electro Therapeutic Section of the Royal Society of Medicine was founded he at once took his place as the pioneer in Britain of electro-therapy in gynæcology. His original researches in high-frequency applications, both for gynæcological and general diseases, commanded wide attention, but it was not till 1917 that he was persuaded to publish his book 'Electro-therapy in Gynæcology.' It is not too much to say that all present-day workers in the field are following the lines he had quietly practised for 20 years. Many of the electrical appliances in medical use to-day were invented and perfected by him; such are the rectal and the vaginal electrodes for high frequency, the apparatus used for ionisation of septic conditions of the vagina and uterus, and the faradimeter, the only instrument which measures accurately the faradic current. Dr. Sloan possessed the secret of perpetual youth. By his colleagues at the Electro-therapeutic Section of the Royal Society of Medicine, he was affectionately spoken of as the 'Grand Young Man.' No junior member of the profession ever appealed to him in vain; he would spend hours explaining to the humblest inquirer every detail of an electrical application. His enthusiasm was inspiring; his modesty, sincerity, and genuine happiness gained for him the esteem and affection of all who knew him. Patients who had seen him only once would speak of him years afterwards in terms of enthusiastic admiration for the thoroughness of his methods and the sympathetic radiance of his personality."

We add a few lines from an appreciation sent by an academic colleague:—

"After acting as assistant in a country town, Dr. Sloan began practice in a working-class district of Glasgow, his native city, at a time when fees for visits and confinements were very small indeed. In a few years he had a large if not lucrative practice, and was deservedly trusted and loved by his patients, as he never spared himself, although frequently overworked. Dr. Sloan was a man of culture, and was valued by his colleagues and professional brethren. He was always courteous in manner and considerate of the feelings of others. A large attendance of medical men and friends at his funeral in the necropolis testified to the esteem in which he was held by those who knew him best. Two of his sons and a daughter are medical graduates of Glasgow University."

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At a meeting of Council on Oct. 14th diplomas in ophthalmic medicine and surgery were granted, conjointly with the Royal College of Physicians of London, to the following ten candidates:—

H. R. Bickerton, Cambridge and Liverpool; A. G. East, Oxford; N. B. B. Fleming, St. Andrews; V. B. Gokhale, Bombay; G. F. Haycraft, Guy's; S. K. Mukerjee, Calcutta and Oxford; R. P. Ratnakar, Bombay and Liverpool; A. W. S. Sichel, Edinburgh and Birmingham; W. H. Simpson, New Zealand; and J. H. Vaidya, Bombay.

Diplomas in tropical medicine were also conferred upon the following 13 candidates:—

R. G. G. Crely, Dublin; H. R. Dive, Lond. Sch. Trop. Med.; S. D. A. El Daab, Cairo and St. Bart.'s; J. Fanstone and R. B. Hawes, Lond. Sch. Trop. Med.; R. Jamison, Belfast; T. J. Lane, Dublin; M. D. Mackenzie, St. Bart.'s; G. A. S. Madgwick, Lond. Sch. Trop. Med.; F. N. Moos, Bombay; Elizabeth Josephine O'Driscoll, Dublin; E. S. Phipson, Lond. Sch. Trop. Med.; and F. E. Reynolds, Edinburgh.

The diploma of M.R.C.S. was also conferred upon the following, who have passed the requisite examinations and have complied with the by-laws:—

William Britain Jones, Univ. Coll. Hosp.; and Fredrik Albertyn van Coller, Manchester Univ.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College held on Oct. 20th Dr. George Mackay was re-elected President, Dr. R. McKenzie Johnston Vice-President, and Mr. Alexander Miles Secretary and Treasurer.

The following candidates having passed the requisite examinations between June 28th and July 8th were admitted Fellows:—

Ewart Gordon Anderson, William Brodie Gurney Angus, Stanley Batchelor, Andrew James Caird, Clement Lorne Chapman, Graham Wilson Christie, Barry Keyte Tenison Collins, William Fleming Currie, Jatindra Kumar Datta, Norman Harrison Dempster, Harilal Manilal Desai, James Leslie Diggle, Oswald Ellis, Dallas Scott Falconer, Kenneth Grant Fraser, Aubrey Goodwin, Ernest Albert Guymer, Alice Mabel Headwards, James McAlister Holmes, Archibald Mason Jones, James Taylor Kyle, John Howard Lechler, James Lyons, Donald McIntyre, Daniel McVicker, Henry Heber McWilliams, George Ewart Martin, Thomas Alexander Milroy, Alexander Reid Noodie, William Morris, Kenneth Douglas Panton, William Calder Paton, Robert Richards, George Richardson, John Sutherland Taylor, James Hall Tennent, Benjamin Thomas, William Archibald Thompson, Cecil Heygate Vernon, David Garrick Wishart, and Max Yuille.

Miss Alice Mabel Headwards, of Calcutta, India, is the first woman to be admitted to the Fellowship, while the College, which is the oldest surgical corporation in the United Kingdom, was one of the last of the medical corporations to admit women to its higher qualification.

At the recent dental examinations the following candidates passed the Final Examination and were granted the diploma L.D.S. R.C.S. Edin.: Dorothy Mary McCullagh and Winifred Hope Thomas; and the following passed in the subject of Medicine and Surgery: Albert Edmond Muriset.

UNIVERSITY OF WALES: CHAIR OF TUBERCULOSIS.—Major David Davies, M.P., has given £12,500 to found a chair of Tuberculosis at the Welsh National Medical School.

THE FEDERATION OF MEDICAL AND ALLIED SOCIETIES.—It has been recently announced that the Minister of Health would be asked by the Federation to receive a deputation asking him to withhold his approval of schemes proposed with regard to the municipal control of hospitals until the medical and allied professions had had more opportunity of expressing opinions on the principles involved. It has now been decided that the usual form of a public deputation will not be pursued, and that the Federation will seek an early opportunity of laying in some more private manner the views of the constituent bodies before the Minister.

At the last meeting of the Executive Council of the Federation careful consideration was given to the possible effects of Clause 11, 1 (a), (b), (c), of the Ministry of Health (Miscellaneous Provisions) Bill, and it was decided to call a conference at 3 P.M. on Friday, Nov. 5th, in the council room of the Medical Society of London, with a view to collating opinions as regards the proposals contained in the Bill, especially with reference to their effects on the voluntary hospitals. One of the main points before the conference will be the question whether the medical profession and the services allied to it will obtain an adequate share of administrative control of the institutions under the arrangements whereby powers are given to County and County Borough Councils to maintain hospitals and infirmaries, and to contribute to the support of voluntary hospitals out of the rates.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.—It is hoped that before Founders' Day on Nov. 2nd the whole of the work of this hospital at Queen-square, London, W.C., will be resumed, the financial situation having improved. Anxiety is still felt for the future of the work, as £100 a day has to be provided to meet the expenditure.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL.—The opening of the winter session at the Central London Throat, Nose and Ear Hospital, Gray's Inn-road, London, W.C., will take place at 4 P.M. on Wednesday, Nov. 3rd, when Sir James Dundas-Grant will deliver the introductory address on Oto-laryngological Reminiscences and their Lessons. The annual dinner of the medical staff will take place on the same evening at the Trocadero.

WILLESDEN DIVISION OF THE B.M.A.—A meeting will be held on Nov. 2nd at 8.30 P.M. at St. Andrew's Parish Hall (institute behind church), High-road, Willesden Green, London, N.W., when Lord Dawson of Penn will speak on the report of the Consultative Council on Medical and Allied Services (Ministry of Health). Members of the medical profession are invited to attend, to ask questions, and to state their views.

ACCOMMODATION FOR BORDER-LINE CASES.—On the question of accommodation for border-line shell-shock and neurological cases, a statement made on behalf of the Ministry of Pensions shows that 2809 beds have been provided for neurasthenic cases and that 120 more will be ready by Nov. 1st. Further proposals to increase bed accommodation are being considered, and out-patient treatment is being provided at 29 clinics. It is stated that the chief difficulty is still the shortage of suitable medical officers.

RECONSTRUCTION OF PROFESSIONAL CLASSES WAR RELIEF COUNCIL.—Lord Phillimore presided recently at a conference of representatives of professional institutions and benevolent funds and other bodies in touch with the professional classes. It was reported that the Professional Classes War Relief Council had decided upon a scheme of reconstruction in order to become a permanent body for dealing with post-war distress among professional men and women and others of the more highly educated classes. The conference warmly supported this action, and a resolution was adopted urging all bodies in touch with the professional classes to recognise the council and to avail themselves of its services when likely to be of use.

APPOINTMENT OF A NEW VIVISECTION INSPECTOR.—The Home Secretary is about to appoint an inspector under the Cruelty to Animals Act, 1876. The appointment will be for a term of three years in the first instance, and the salary will be £800 a year, together with war bonus on the scale authorised for the Civil Service, and travelling allowances at the usual Civil Service rate. The inspector will be required to give his whole time to his duties. Candidates for the post, who possess the scientific qualifications required for the work, and are not over 50 years of age, should apply to the Private Secretary, Home Office, Whitehall, London, S.W.1, from whom furthur information may be obtained. Applications should be accompanied by one or two testimonials and particulars of the candicate's qualifications, and should reach the Home Office by Nov. 10th, 1920.

LONDON PANEL COMMITTEE.—The following resolutions have been adopted by the Panel Committee for the County of London at a meeting held on Oct. 19th:—

1. That the Committee are of opinion: (*a*) That it is essential for the proper protection of panel practitioners that they should be represented by an independent Committee or body responsible to, and directly elected by, the Local Medical and Panel Committees. (*b*) That the Insurance Acts Committee of the British Medical Association does not comply with this standard of an independent body responsible to, and directly elected by, the Local Medical and Panel Committees, and therefore resolves not to nominate or be represented on this Insurance Acts Committee of the British Medical Association.

2. That the secretary of the Committee be instructed to communicate this action on the part of the Committee to the Local Medical and Panel Committees of Great Britain and to invite them to consider the holding of a conference and the forming of an independent body, and further to request those Committees which are affiliated to the Association of Panel Committees to take common action with the London Panel Committee to revive the activities of this Association of Panel Committees as an elected body for the representation and protection of panel practitioners, and as the body to appoint an authority to negotiate with the Government.

3. That the Committee's representatives to the Conference of Local Medical and Panel Committees be instructed to inform the delegates at that Conference of the resolution of the Committee and the reasons therefor, and to urge on these delegates the importance of following the lead of the London Panel Committee for the establishment of an independent body for the protection of the interests of panel practitioners.

Dr. H. V. Prynne has been appointed Chief Medical Officer to the Post Office, in place of Dr. J. Sinclair, who has retired.

ANNUAL DINNER OF THE SOCIETY OF M.O.H.'S.—Lieutenant-Colonel F. E. Fremantle, M.P., presided at the annual dinner held at the Hotel Cecil on Oct. 22nd. The attendance, 140 in all, constituted a record, exceeding by two that of the jubilee year. Brigadier-General W. W. O. Beveridge, in reply for the Fighting Services, disclosed the facts that four sanitary companies, each of four sections, were being allotted to the Territorial Forces, and that there would be a director of hygiene at G.H.Q. should the army ever take to the field again. Sir Philip Magnus, M.P., who replied for Parliament and the Public Health, described the outlook of health administration in Parliament as most hopeful. Dr. Fremantle gave facts and figures illustrating the recent growth of the Society, which now had a membership of 1200. Sir Arthur Robinson, First Secretary to the Ministry of Health, was among the guests, and in responding to a toast he described the sanitary service as an oasis in the health services of the country. Other representative visitors were Sir Anthony Bowlby, Mr. J. W. Gilbert (chairman of the L.C.C.), Lord Dawson of Penn, and Dr. T. W. H. Garstang (chairman of representative meetings of the B.M.A.).

LIVERPOOL MEDICAL INSTITUTION.—**The eighty-**second session of this institution was opened on Oct. 14th, when Dr. J. E. Gemmell, the President, delivered the inaugural address on Literature and Medicine. He pointed out that professional work of any kind, if pursued too closely, tends to cramp the mind, and that extrinsic studies widen the sympathies and help to get the best out of life. Medical men need culture as well as learning. Many medical men engaged in active practice have been known for the richness and variety of their literary work, mainly done in their leisure hours as a form of recreation. Interesting examples were quoted from the seventeeth century to modern times, and reference was made to the claim the profession had on Goldsmith, Keats, and Southey, all of whom had been medical students. The opportunities and advantage offered by such a society as the Liverpool Medical Institution, by its meetings, discussions, and library, were dwelt upon as an essential adjunct to the recreation and education of the professional man.

PATHOLOGICAL SOCIETY OF MANCHESTER.—**The** annual meeting of this society was held in the Department of Pathology, Manchester University, on Oct. 20th. Dr. A. Sellers took the chair on election as President for the year 1920–21, and expressed the hope that the society would play an increasing part in bridging the gulf between the whole-time pathologists and those engaged in clinical work. After the election of officers for the coming session Professor H. R. Dean demonstrated specimens from a case of Carcinoma of the Bronchus, with secondaries in the heart and subcutaneous tissues. Mr. Garnett Wright showed a Primary Carcinoma of the Liver removed by operation. Mr. Geoffrey Jefferson demonstrated a specimen of Traumatic Rupture of the Pelvis of a Hydronephrotic Kidney, of uncertain origin, in a boy aged 7, removed by nephrectomy, and Mr. John Morley showed two specimens of Adeno-sarcoma of the Kidney removed from young children.

MANCHESTER HOSPITALS: EXTENSIONS AND ADDITIONS.—The Public Health Committee of the Manchester corporation has presented to the City Council a favourable report on the proposal to build a children's hospital at Abergele Sanatorium, to accommodate 500 children, expressing the opinion that the scheme is long overdue. The estimated cost will be £548,751, or about £1097 per bed; this sum includes roads, bridges, water-supply, furniture, &c. The cost per bed is considered "very excessive" by the Finance Committee, and this committee considers that the Government grant of £180 per bed is totally inadequate under the circumstances. The council is recommended to get an increased offer from the Government before proceeding with the scheme. The site covers 25 acres and the staff will number 230, with four medical men. The Health Committee in addition proposes an extension of the adult sanatorium at Abergele. By adding a new block and making certain other alterations, and redistributing the patients, room will be found for 68 men and 25 women patients, as against the present 36 men and 10 women. The total cost will be £36,800, towards which the Government will contribute £7200, but the furniture and equipment will cost another £6000. The Royal Eye Hospital has acquired a plot of land in Oxford-road, immediately opposite the hospital, on which, after the expiry of certain leaseholds, it is proposed to arrange a much-needed annexe. The Royal Infirmary also has acquired a large nursing home in Nelson-street for the use of the X ray department.

ROYAL INFIRMARY, SHEFFIELD.—**A reduction in** the hours of the nursing staff at the Royal Infirmary, Sheffield, has been rendered possible by a grant of £5000 from the British Red Cross Society, which has enabled the board to add another storey containing 21 bedrooms, and sanitary blocks, to the existing nurses' house. The nursing staff is being increased and applications from probationer nurses are invited. There has also been added to the nurses' quarters a new recreation room with a special floor for dancing. It is proposed in the near future to appoint a new sister, to take over part of the duties now performed by the assistant matron and home sister. This new sister will be home sister and sister tutor; by this means it is hoped to keep the infirmary in the forefront of English nursing training schools.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—**The** first meeting of the session was held at the University on Oct. 14th, when Dr. F. J. Sadler, physician to the Beckett Hospital, Barnsley, delivered the Presidential address on the Treatment of Chronic Non-infectious Disease by Modern Methods. Dr. Sadler first referred to the importance of the diagnosis and treatment of chronic intestinal poisoning in its earliest stages. Following the recent writings of Danysz the treatment was discussed under three important headings: 1. The discouragement of the intestinal flora, whose excess or increasing virulence was the source of the toxins which did the damage, by the administration of intestinal antiseptics—e.g., ichthyol, salol, benzonaphthol, in addition to purgatives. 2. The neutralisation of the poisons which had passed into the blood by injecting various forms of protein whether intravenously or otherwise. 3. The supplementing of endocrine insufficiency by the administration of thyroid, suprarenal, or other endocrine gland extracts. The value of intestinal antiseptics was illustrated by reference to numerous cases, one of which, a case of chronic parenchymatous nephritis, was described in detail. The albuminuria diminished and the general state improved during the administration of ichthyol in 2½ gr. doses twice daily, this treatment having been started only when improvement had ceased under the ordinary methods. The treatment of arthritis, sciatica, lumbago, neurasthenia, and chronic dyspepsia by doses of 10 to 50 millions of killed *B. coli* had given satisfactory results, but had failed in a case of chronic nephritis in which ichthyol did good. Numerous instances were given in which the administration of thyroid had proved most satisfactory, especially in cases of neurasthenia and climacteric disorders of women. In a number of cases of deafness this treatment had also brought about material improvement. In many cases a combination of these various methods had been found the most satisfactory.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—A programme of weekly demonstrations for practitioners has been issued by this Association. The demonstrations will be given on Wednesday afternoons at 4.15, beginning on Nov. 17th, and each demonstration will last 1 to 1½ hours. The meetings will be at one of the following hospitals: Royal Hospital for Sick Children, Royal Maternity and Women's Hospital, Royal Infirmary, Victoria Infirmary, Royal Samaritan Hospital for Women, Eye Infirmary, Western Infirmary, Royal Asylum (Gartnavel), Ear, Nose and Throat Hospital, Lock Hospital, and will include demonstrations on medical and surgical cases and cases from special departments. The inclusive fee for the series is £3 3s., payable to Dr. A. M. Kennedy, secretary, Post-Graduate Medical Association, the University, Glasgow, from whom further particulars may be obtained.

PAYMENTS BY HOSPITAL PATIENTS IN BRISTOL.—In a recent paragraph in THE LANCET relating to the financial position of the Bristol hospitals attention was drawn to a remarkable increase in the voluntary contributions to certain of the hospitals, and to a movement on the part of the working men of East Bristol for the provision of still larger contributions. The whole question of payment for hospital accommodation and treatment is under consideration, and from at least three angles it is being discussed by the medical profession. First, there is the possibility that the voluntary hospitals may ask for contributions by patients towards their maintenance. Secondly, a paying hospital is about to be started in Clifton, staffed by a number of the junior members of the voluntary hospital staffs. This will cater for those patients who are prepared to pay 3 guineas a week, in addition to fees for medical attendance at a fixed scale. Thirdly, there is a movement afoot for the provision of efficient treatment on the basis of a hospital "team" (to include the members of all the hospital staffs), working in a properly furnished building, for patients of a class able to pay fully for maintenance and also for medical and surgical treatment. Caution is needed at the present time in entering into contracts which might in the immediate future furnish precedents disastrous to the work of the profession.

SOUTH-WESTERN OPHTHALMOLOGICAL SOCIETY.—The inaugural meeting of this society took place on Oct. 22nd at the Bristol Eye Hospital and was attended by over 30 members. Numerous cases were shown. Mr. Richardson Cross was elected president, Mr. A. C. Roper (Exeter) and Mr. R. J. Coulter (Newport) vice-presidents, and Mr. E. H. E. Stack secretary. Mr. Cross, in explaining the objects of the society, advocated informal discussions on general ophthalmic topics which would interest not only oculists but also physicians, surgeons, and general practitioners. Mr. Roper opened a discussion on the Causes of Iritis, laying special stress on the subject from a clinical as well as a pathological point of view. He drew attention to the influence of damp as a predisposing cause; patients living in a certain valley in his neighbourhood were more prone to inflammatory troubles, especially after operation, than those living in other parts of the county; he referred also to the good results obtained in very dry climates abroad. The society already numbers over 50, and there were present at the meeting members from Bath, Exeter, Weymouth, Newport, and Cardiff.

DONATIONS AND BEQUESTS.—Sir William and Lady Lister have sent a donation of £5000 to the Royal London Ophthalmic Hospital for the purpose of starting an ophthalmic convalescent home.—Queen Alexandra has sent £500 from the Alexandra Day Fund to the British Home and Hospital for Incurables, Streatham, and £150 to the Chelsea Hospital for Women. The Chelsea hospital has also received £50 from the Drapers' Company towards the building of a nurses' home.

RESIGNATION OF MEDICAL HONOURS IN IRELAND.—Dr. Joseph F. O'Carroll, on whom last year was conferred the distinction of C.B.E., has written to the Home Secretary requesting that his name may be removed from the roll, as he finds his country, as the result of recent legislation and subsequent administration, deprived of those liberties which were supposed to be distinctive of the British Empire. Dr. M. F. Cox has similarly resigned his Privy Councillorship, as he finds himself out of sympathy with the present administration of Ireland. Many medical magistrates throughout the country have returned their commissions to the Lord Chancellor on similar grounds.

A NEW PRINCIPAL MEDICAL OFFICER FOR KENYA, BRITISH EAST AFRICA.—Great satisfaction is felt in Nairobi at the selection of Dr. J. L. Gilks for the appointment of principal medical officer of Kenya, a province of British East Africa, on the retirement of Colonel A. D. Milne. It was known that Dr. Gilks had been offered an appointment as principal medical officer in Ceylon, and the decision to retain his services has been much appreciated throughout British East Africa, where he is very popular.

INFLUENZA IN SOUTH AFRICA.—A recrudescence of the influenza epidemic is reported from the Witwatersrand area, especially among the native population. Few Europeans have hitherto been affected, and only six deaths have occurred among nearly 3000 native patients. In the majority of cases the disease has taken a mild form, and an official report states that although the epidemic continues to spread it is subsiding on the mines first affected.

SOUTH AFRICAN MEDICAL CONGRESS.—The fifteenth South African Medical Congress was held at Kimberley in July, 1914. After a lapse of six years the sixteenth Congress was opened at Durban on Oct. 4th by the Administrator of Natal, Dr. S. G. Campbell (Durban) presiding. Dr. Campbell commenced his address by welcoming as a distinguished guest Dr. J. A. Macdonald, who had come out as a representative of the British Medical Association, under whose auspices the Congress was being held. He referred to the facilities for taking a full medical course now existing in Capetown and in Johannesburg, and discussed the reasons for and against the adoption of medicine as a profession. The delegates attending the Congress numbered about 250, and represented all the South African branches of the Association.

THE LATE DR. WILLOUGHBY FURNER.—After a long illness, the death occurred at his residence in Hove on Oct. 19th of Willoughby Furner, M.D. Durh., F.R.C.S. Eng., O.B.E., aged 72, who, before his retirement, was one of the leading surgeons in Brighton and Hove. The name of Willoughby Furner had been a household word in the joint towns for a great number of years, and he was held in the highest esteem and respect by all his colleagues. He received his medical education at St. Bartholomew's Hospital, where he was the Foster and Treasurer prizeman in the year 1869–70. In 1871 he became a Member of the Royal College of Surgeons of England, and then became demonstrator of anatomy and operative surgery at St. Bartholomew's Hospital. In 1873 he became a Fellow of the Royal College of Surgeons, and took the M.D. degree at Durham in 1891. Dr. Furner contributed on several occasions to the columns of THE LANCET.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Government and the Voluntary Hospitals.

AT a meeting convened at the House of Commons on Tuesday, Oct. 26th, by the Parliamentary Medical Committee, Dr. ADDISON, Minister of Health, made an explanatory statement with regard to the powers which are sought in the Bill now before Parliament to enable local authorities to contribute to voluntary hospitals. Dr. NATHAN RAW, M.P., presided.

Dr. ADDISON said he was glad to have an opportunity of clearing up certain misunderstandings which had arisen on this question. The finances of the voluntary hospitals both in London and the provinces for the five-year period down to 1918 showed a huge deficiency of something over £2,000,000, and even with the use of the disposable legacies the accounts would only just balance. In the year 1919 the expenditure increased still further from unavoidable causes, and in 1920 was still getting worse. The Red Cross Society had come to their aid and the income of the hospitals had somewhat improved, but the position had been very serious. The Ministry of Health had done all it could to secure assistance which would tide the hospitals over their troubles for the time being. So far from the Ministry having engaged in a sinister conspiracy to put the hospitals on the rates, they had done all they possibly could to avoid that. His critics appeared to have lost sight of the fact that the voluntary hospitals did not contain half the hospital beds that there were in the country. In the voluntary hospitals there were a little over 45,000 beds, but in addition there were 39,000 beds in fever and small-pox hospitals and 94,000 hospital beds in Poor-law infirmaries. He had to keep in mind the entire hospital accommodation of the country. The country owed an unspeakable debt to the men and women who spent their lives in the management and in promoting the well-being of the voluntary hospitals, and he wished to help the initiative, the variety, and the enterprise which attached to well-managed voluntary hospitals. It would be a disaster to the community if these were lost, and no Minister of Health in his senses would set out to destroy them. But while there was a great mass of accommodation in London there were huge populations elsewhere with practically no provision, and it was an unfortuna te fact that a large number of hospitals were in financial straits. An inquiry he set on foot into the Poor-law infirmaries showed that many of them were first-class institutions, yet there were in these infirmaries many empty beds. These empty beds should be used to meet the needs of the population. A number of boards of guardians were now admitting paying patients. He did not know if this was strictly in accordance with the Poor-law, but he would be betraying his trust if he prevented it from being done. Local authorities were empowered by a clause in the Public Health Act to provide hospitals, but a question had arisen whether this meant general hospitals or only fever hospitals and such like. A considerable number of authorities had taken the view that the powers were general powers. Within hail of where he was speaking there was an authority which had taken over a Poor-law infirmary and made it into a general hospital, and it was doing very well. The case of Bradford was classic in this respect. He had obtained the opinion of the Bradford Branch of the British Medical Association, and they had stated that, subject to certain qualifications, they were favourable to the scheme. The Bill before Parliament was designed to regularise the action of the authorities, which had taken the view he had referred to, and to give similar powers to county councils which alone did not possess them at present. Dealing with large areas, these authorities were peculiarly fitted to have such powers. It was obvious that if a local authority found the money it must have the determining voice, but subject to that he was desirous of consulting the medical profession in every possible way. Statements had been made that under a new Order medical men on the Insurance panel were to have 3000 patients. This was a complete misunderstanding. Before that regulation was made there was no limit to the number of patients a doctor could have. The Advisory Council urged that there should be a limit, and that limit had been fixed at 3000. It was also provided that, if the local authority in the district wished, it could fix a lower figure, and he was glad to say that many were acting on that line. There were now 12,007 medical men on the Insurance lists, and only 254 had as many as 3000 patients on their lists. There were 8674 medical men with fewer than 1200, and 7204 had fewer than 900 patients on their lists.

Mr. MYERS asked if the voluntary hospitals could be put on a financially sound basis they would be equal to the requirements?

Dr. ADDISON: They would not be equal to half the requirements.

Mr. MYERS: It is a public responsibility and the public must take hold of it.

Captain ELLIOTT said that would treble the cost of the hospitals. He begged the Labour Party not to decide rashly that the moment had come to sweep away the good that had been done by voluntary institutions for years past.

Lieutenant-Colonel FREMANTLE raised the point whether action such as the Minister of Health was taking in the Bill before Parliament would not postpone indefinitely the larger action required for the complete reorganisation of the medical services of the country.

Dr. ADDISON said that the present Bill was only a fragment of what was involved in the vast scheme of medical reorganisation which he contemplated.

Major GLYN expressed the hope that the voluntary hospitals would adopt a scheme of coöperative buying. By that means he felt sure they could effect considerable economies.

Dr. ADDISON was thanked for his statement.

HOUSE OF COMMONS.

THURSDAY, OCT. 21ST.

Appeal Boards and Pension Applicants.

Mr. SPENCER asked the Minister of Pensions what relief there was in a case in which a man was passed A 1 when he enlisted, but when he came to apply for a pension the doctor who examined him—and the board upheld the decision—stated that he was suffering from some ailment that was contracted before he entered the Service. How was a man to get over that?—Mr. MACPHERSON replied: There is a Medical Appeal Board which can sit with the other additional board, which is under the jurisdiction of the Lord Chancellor.—Mr. NEWBOULD asked if the right honourable gentleman was aware that in cases where there was a doubt the Appeal Board appointed by the Lord Chancellor invariably gave the decision against the applicant?—Mr. MACPHERSON: I am told that in 70 per cent. of the cases appeals are granted in their favour by the Lord Chancellor's tribunal.—Sir H. COWAN asked what machinery there was by which a man who was discharged by reason of an ailment resulting from his service could make an appeal to the Ministry of Pensions. He had appealed in regard to a very strong case, and it had been turned down each time.—Mr. MACPHERSON: I remember the case to which my honourable friend refers. In that case there was an appeal first of all to a medical board, who turned it down, and then there was an appeal to the Appeal Tribunal, which was also turned down. If an appeal is turned down on every occasion by these boards what can the Minister of Pensions do? There must be some limit, and he must be guided by his technical advisers.

Suicide Statistics.

Mr. MALONE asked the Minister of Health the number of persons who had committed suicide since the termination of the war and the percentage of ex-Service men included therein.—Dr. ADDISON replied: The number of persons who have committed suicide in Great Britain during the period from the last quarter of 1918 to the first quarter of 1920, both inclusive, is 5219. No statistics are available as to what number or percentage of those persons were ex-Service men.

Alleged Unsound Meat at Newcastle.

Mr. GRATTAN DOYLE asked the Food Controller whether he was aware that, notwithstanding previous explanations and promises, unsound food condemned as being unfit for human consumption continued to be sent into the city of Newcastle-on-Tyne; and if he would give the amount and value of such unsound and condemned food sent into that city during the years 1918 and 1919 respectively, and for the first nine months and for the month of September of the present year.—Sir W. MITCHELL THOMSON (Parliamentary Secretary for the Ministry of Food) replied: I can only repeat that no food in an unsound condition is despatched by the Ministry of Food to the City of Newcastle-on-Tyne or anywhere else. Owing to the efficiency of the local inspection of food-supplies, of which the Food Controller heartily approves, a certain quantity is condemned from time to time in course of distribution, but this applies also to other places where the standard of inspection is equally high. As regards the figures asked for in the second part of the question I would refer the honourable Member to the Minister of Health.

MONDAY, OCT. 25TH.

Pensions Appeal Tribunals' Decisions.

Major BIRCHALL asked the Minister of Pensions if he would state what proportion of the cases taken to appeal prior to the establishment of the Lord Chancellor's Appeal Tribunals was allowed; what proportion of the cases heard by the Lord Chancellor's tribunals had been allowed; how many widows' cases had been heard by the latter tribunals; and what proportion of them was allowed.—Major TRYON replied: The number of appeals decided by the Pensions Appeal Tribunals prior to the establishment of the statutory tribunals on Nov. 1st, 1919, was 14,731, of which 5064 were allowed. During the period Nov. 1st, 1919, to Sept. 30th, 1920, 13,030 appeals were decided by the statutory tribunals, of which 4130 were allowed. For widows alone the number for the second period is 1131, and of these 417 were allowed.—In reply to Mr. W. SHAW, Major TRYON said he was not aware of any case in which a disablement pension had been reduced because the pensioner was earning a considerable weekly wage. Medical boards were strictly precluded from inquiring as to the wage which a disabled man was earning.—Replying to Mr. F. ROBERTS, Major TRYON said the total number of claims to pension which had been refused on the ground that the disability was not connected with service in the late war was approximately 240,000.

Leave and Pay of Indian Army Officers.

Colonel YATE asked the Secretary for India if he could state when the revised rules for leave pay and unemployed pay for officers of the Indian Army would be issued.—Mr. MONTAGU replied: Revised rules have been approved and will be announced very shortly.

Motor-car Taxation and Road Improvement.

Sir WILLIAM JOYNSON-HICKS asked the Minister of Transport whether, having regard to his repeated pledges to the motor community when they agreed to the increased taxation on motor-cars, he was prepared to amplify the Prime Minister's statement dealing with road construction during the coming winter; whether he was able to assure the House that the whole of the fund would be employed for necessary road maintenance, construction, and improvement; whether a proper proportion was being retained for road improvements; and whether he would take care that in dealing with this fund the primary purpose would be the interests of the roads and road users rather than the needs of unemployment, which was a national charge.—Sir ERIC GEDDES replied: In the Report of the Departmental Committee upon which the taxation of motor vehicles for the Budget was based, an estimate of expenditure for maintenance and improvements separately was given. The anticipation of the improvement programme in no way interferes with the classification and maintenance grants then proposed. The Government in deciding to expedite the road improvement programme had specifically in mind the spirit of the understanding with the mechanical road-using community. As to the last part, the honourable baronet is no doubt aware of the provisions of the Development and Road Improvement Funds Act, 1909, under which regard must be had to the state and prospects of employment.

D.C.M.S. and Pensioners' Treatment Allowances.

Lieutenant-Colonel Sir ALFRED WARREN asked the Minister of Pensions if his attention had been called to cases of hardship arising from the putting into operation of Circular 204, whereby disabled men who were certified by the medical referee as being unable to follow a remunerative occupation were being denied treatment allowances by the Deputy Commissioner of Medical Services on the ground that the disability pension was an assessment of the average disability over the period of its currency, and account was taken in its award of such brief periods of incapacity as might be expected to occur in the normal course of the disablement; and, if so, would he give the matter further consideration, and at any rate postpone the further operation of Circular 204 until he had had an opportunity of reviewing the situation in the light of fuller information now available.—Major TRYON replied: Treatment allowances are by the terms of Article 6 of the Royal Warrant confined to cases where it is considered by the Ministry that a man should undergo a course of treatment and is in consequence rendered unable to support himself. Circular 204, which draws attention to this principle, has been in force in its present form nearly nine months, and my right honourable friend is unable to adopt the suggestion of the honourable and gallant Member.

Maintenance of Pauper Lunatics.

Mr. R. YOUNG asked the Minister of Health what was the cost per patient repaid to boards of guardians for lunatic patients in county asylums; whether owing to the increased cost in such asylums for lunatic patients there was a growing tendency to retain these mental cases in workhouses; and whether he would consider that an increase in the grants repaid to boards of guardians should be given to secure the removal of mental patients to suitable hospitals where more highly skilled treatment could be obtained.—Dr. ADDISON replied: The grant payable to a board of guardians in respect of a lunatic in a county asylum is 4*s.* weekly. I have been unable to find any evidence of the tendency suggested and I do not think that an increase of the grant is called for on this ground.—Mr. FORESTIER-WALKER asked the Minister of Health whether, in view of the greatly increased cost of maintenance of pauper lunatics, he was prepared to introduce legislation amending the Act of 1888, so as to provide repayment to boards of guardians of a con-

tribution proportionate to the present high cost of maintenance and also towards the large increase of salaries and bonuses of the officials of Poor-law unions.—Dr. ADDISON replied: As I have repeatedly stated, in view of the contemplated legislation for the reform of the Poor-law, it would not be practicable to deal with these particular points at the present time.

TUESDAY, OCT. 26TH.

Medical Re-examination of Pensioners.

Mr. ROBERT YOUNG asked the Minister of Pensions whether pensioners who were in receipt of provisional pensions were called up for re-examination for medical examination one month before their pensions expired; whether he was aware that three or four months elapsed before these pensioners knew whether their pensions were to continue, during which time they experienced great hardship by receiving no payment; and whether he would consider an earlier examination or other arrangement to remove this grievance.—Major TRYON (Parliamentary Secretary to the Ministry of Pensions) replied: As a statement of the general practice of the Ministry in regard to the renewal of conditional awards of pensions the procedure described in my honourable friend's question is not correct. With the direct object of preventing a break in the issue of pension, pensioners are called up for medical re-examination some time before the expiry of the current award, but normally the new award is notified within 14 days of the examination. In exceptional circumstances when a pensioner does not receive notification of the new award a week before his current pension is due to expire he is entitled to communicate with his Local War Pensions Committee, who are authorised to continue pension at the former rate pending notification of the new award.

The Resignation of R.A.M.C. Commissions.

Lieutenant-Colonel BUCKLEY asked the Secretary for War whether officers in the Royal Army Medical Corps were refused permission to resign their commissions; and, if so, why were they being placed under a disability which was not experienced in any other branch of the Service.—Mr. CHURCHILL replied: I regret that at present only in exceptional circumstances, such as ill-health, can permission be granted for officers of the Royal Army Medical Corps to retire. This decision was rendered necessary owing to the shortage of medical officers fit for general service, to the large number of applications for permission to retire which have been received, and to the heavy demands from overseas for the service of officers of the Royal Army Medical Corps.

Soldiers Unidentified in Mental Hospitals.

Mr. WATERSON asked the Secretary for War how many soldiers remained unidentified in mental hospitals; and what steps were being taken to make the general public aware of the facts so as to secure identification.—Mr. CHURCHILL replied: There is no unidentified soldier in the mental hospitals under the control of the War Office, and so far as the Department is aware there is no unidentified soldier in any other mental hospital.

Medical Diary.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Tuesday, Nov. 2nd.

SECTION OF SURGERY: SUBSECTION OF ORTHOPÆDICS: at 5.30 P.M. (Cases at 5 P.M.)

Cases, &c.:
The President (Mr. E. Laming Evans): Case of Multiple Congenital Dislocations.
Mr. R. C. Elmslie: Further Report on Case of Cyst of Tibia. (Deferred from last meeting.)

Discussion (deferred from last meeting):
On Mr. Fairbank's Case of Deformities Associated with Chronic Nephritis.
Mr. Fairbank: Case of Paralytic Subluxation of Hip-joint with Paralysis of the Adductors.

SECTION OF PATHOLOGY: at 8.30 P.M.
Laboratory Meeting at the Cancer Research Laboratories, Middlesex Hospital.

Communications:
Professor S. Russ and Dr. Helen Chambers: The Action of X Rays in Various Doses on Rats.
Professor Swale Vincent: The Relation between Cortex and Medulla in the Adrenal.
Mr. B. H. Walters: Accidents during Manipulation of HCN.

Demonstrations:
Dr. E. L. Kennaway and Mr. Somerville Hastings: Three Rare Neoplasms.
Mr. L. H. Clarke: Ultra-violet Light.
Professor J. McIntosh: Experimental Encephalitis.

Wednesday, Nov. 3rd

SECTION OF SURGERY: at 5.30 P.M.

Discussion:
On "Unusual Cases of Gunshot Injury to Blood-vessels," to be opened by the President (Mr. W. G. Spencer), followed by Sir George H. Makins and others.
Members of the Section are invited to take part in the Discussion and to show illustrative specimens.

Thursday, Nov. 4th.

SECTION OF BALNEOLOGY: at 5.45 P.M.

Paper:
Dr. C. F. Sonntag: On the Action of Baths on the Skin and Nervous System.
Members of the Section, with guests, will dine together at the Welbeck Palace Hotel, Welbeck-street, W., at 7 P.M. Those intending to be present are requested to send their names to Dr. C. F. Sonntag, 80A, Belsize Park-gardens, N.W.3, not later than the last post on Nov. 3rd.

SECTION OF OBSTETRICS AND GYNÆCOLOGY: at 8 P.M.

Short Communication:
Mr. J. D. Barris and Mr. M. Donaldson: Acute Inversion of the Uterus. Treatment by Blood Transfusion and Late Replacement.

Papers:
Dr. R. A. Hendry, Dr. Amand Routh, Dr. John Adams: Latent Syphilis during Pregnancy.

Discussion by—
Mr. Charles Gibbs, Mr. McDonagh, Mr. Kenneth Walker, Dr. Eardley Holland, and Dr. Morna Rawlins.

Friday, Nov. 5th.

SECTION OF LARYNGOLOGY: at 4 P.M.

Cases will be shown by—
Mr. Somerville Hastings, Mr. Douglas Harmer, Mr. W. G. Howarth, Mr. Lionel Colledge, Mr. C. W. M. Hope, and others.

SECTION OF ANÆSTHETICS: at 8.30 P.M.

Paper:
Dr. Dudley W. Buxton: The Psychology of Anæsthesia.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.
Museum Demonstrations in the Theatre of the College for Advanced Students and Medical Practitioners:—
MONDAY, Nov. 1st.—5 P.M., Prof. S. G. Shattock: Fibroma; Chondroma.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
MONDAY, Nov. 1st.—2 P.M., Dr. G. Stewart: Medical Out-patients. 5 P.M., Lecture:—Dr. A. Saunders: Rheumatism in Children.
TUESDAY.—2 P.M., Mr. Banks Davis: Diseases of the Throat, Nose, and Ear. 5 P.M., Lecture:—Dr. Burnford: Infective Endocarditis.
WEDNESDAY.—11 A.M., Mr. MacDonald: Demonstration of Cystoscopy. 5 P.M., Lecture:—Dr. Owen: Organic Disease of the Heart. (Lecture I.)
THURSDAY.—2 P.M., Mr. D. Armour: Operations. 5 P.M., Special Lecture:—Dr. J. W. Carr: Tuberculous Meningitis (open to all Medical Practitioners).
FRIDAY.—2.30 P.M., Mr. Addison: Visit to Surgical Wards. 5 P.M., Lecture:—Mr. Page: Anæsthesia in Heart Disease and Some Other Morbid Conditions.
SATURDAY.—12 noon, Mr. Sinclair: Surgical Diseases of the Abdomen. 2 P.M., Dr. Owen: Medical Out-patients.
Daily:—10 A.M., Ward Visits. 2 P.M., In-patient, Out-patient Clinics and Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
MONDAY, Nov. 1st.—2.30 P.M., Mr. J. B. Banister: Gynæcological. 3 P.M., Dr. A. J. Whiting: Demonstration of Cases of Disease of the Nervous System.
TUESDAY.—9.45 A.M., Lieut.-Col. R. H. Elliot and Mr. N. Fleming: Eye Cases and Operations. 2.30 P.M., Dr. J. Metcalfe: Radiology and Electrical Methods. 4.30 P.M., Mr. C. H. Hayton: Cases of Mastoid Disease.
WEDNESDAY.—2.30 P.M., Dr. W. J. Oliver: Dermatological. 3 P.M., Mr. T. H. C. Benians: Bacteriology of Bronchial Infections.
THURSDAY.—2 P.M., Mr. N. Fleming: Eye Out-patients. 3 P.M., Dr. J. Metcalfe: Examination of Chest Cases by X Rays.
FRIDAY.—3 P.M., Dr. C. E. Sundell: Demonstration of Cases of Children's Disease. 5 P.M., Dr. F. L. Provis: Venereal Department.
SATURDAY.—3 P.M., Mr. H. W. Carson: Surgical In-patients.
Daily:—11 A.M., Mr. T. H. C. Benians: Bacteriological Department. 2 P.M., Operations, In-patient, Out-patient Clinics, &c.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, W.C.1.
MEDICAL SCHOOL.
MONDAY, Nov. 1st.—2–3.30 P.M., Out-patient Clinic: Dr. Collier. 3.30 P.M., Lecture:—Dr. Aldren Turner: Subacute Combined Degeneration of Spinal Cord.
TUESDAY, Nov. 2nd.—2–3.30 P.M., Out-patient Clinic: Dr. Grainger Stewart. 3.30 P.M., Lecture:—Dr. Risien Russell: Neurasthenia.
WEDNESDAY, Nov. 3rd.—2 P.M., Lecture: Dr. Gordon Holmes: Cerebellar Disease. 3.15 P.M., Lecture:—Dr. Collier: Nervous Manifestations in Diabetes and Bright's Disease.
THURSDAY, Nov. 4th.—2–3.30 P.M., Out-patient Clinic: Dr. Farquhar Buzzard. 3.30 P.M., Lecture:—Dr. Farquhar Buzzard: Trigeminal Neuralgia.
FRIDAY, Nov. 5th.—2–3.30 P.M., Out-patient Clinic: Dr. Gordon Holmes. 3.30 P.M., Dr. Tooth: Ward Cases.
SATURDAY, Nov. 6th.—9 A.M., Surgical Operations.
Fee for Post-Graduate Course £7 7s. C. M. HINDS HOWELL, Dean.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY, Nov. 4th.—4 P.M., Lecture:—Dr. Hutchison: Significance of Abdominal Pain in Childhood.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland-street, W.

MONDAY, Nov. 1st.—5.30 P.M., Post-Graduate Lecture:—Dr. R. O. Moon: Heart Disease in Children.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

THURSDAY, Nov. 4th.—6 P.M., Chesterfield Lecture:—Dr. W. Griffith: The Pathology of Skin Diseases.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.

Post-Graduate Course on Infant and Child Welfare.

TUESDAY, Nov. 2nd.—10.30 A.M., Dr. E. Pritchard: Practical Demonstrations on the Management and Feeding of Infants and Young Children—Demonstration IX., Treatment of Minor Ailments.

THURSDAY.—3 P.M., Demonstration X., The Training of the Motor Functions of the Digestive System.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE CLINIC.

TUESDAY, Nov. 2nd.—4.30 P.M., Lecture:—Mr. J. H. Ray: Inguinal and Scrotal Tumours.

MANCHESTER FRENCH HOSPITAL POST-GRADUATE LECTURES, 24, Acomb-street (behind Whitworth Park).

THURSDAY, Nov. 4th.—4.15 P.M., Dr. N. C. Haring: Some Common Throat Diseases and their Treatment.

SALFORD ROYAL HOSPITAL AND ANCOATS HOSPITAL POST-GRADUATE DEMONSTRATIONS, at the two Hospitals alternately.

THURSDAY, Nov. 4th.—4.30 P.M., Dr. Reid: Diabetes. (At Ancoats Hospital.)

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ARMSTRONG, B. W., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Superintendent at St. Mary's Hospital.

HUGHES, E. P. L., M.R.C.S., L.R.C.P. Lond., Honorary Medical Officer to the Derbyshire Children's Hospital.

Certifying Surgeons under the Factory and Workshop Acts: STAUNTON, A. M., L.R.C.P. & S. Edin., L.F.P.S. Glasg. (Strabane); EVANS, G., L.R.C.P. & S. Edin., L.F.P.S. Glasg. (Plumbridge); MAGUIRE, A., M.B., Ch.B. Glasg. (Chryston); DUFFY, P., M.B., B.Ch. N.U.I. (Newtownbutler).

Vacancies.

For further information refer to the advertisement columns.

Bedford County Hospital.—Asst. H.S. £150.

Belgrave Hospital for Children, 1, Clapham-road, S.W.—Asst. P. 50 guineas.

Bethlem.—Res. H.P. £25 per quarter.

Bethnal Green Board of Guardians.—Med. Supt. £800.

Birmingham, Queen's Hospital.—Third P. £50.

Bradford City.—Asst. Bact. £600.

Bradford City Education Committee.—Female Asst. M.O. £600.

Buenos Aires, British Hospital.—Asst. Res. M.O. £450.

Bury and District Joint Hospital Board.—Res. Asst. Med. Supt. £450.

Cambridge, Addenbrooke's Hospital.—H.S. £130.

Carlisle, Cumberland and Westmorland Mental Hospital, Garlands.—Jun. Asst. M.O. £350.

Carshalton, Surrey, Queen Mary's Hospital for Children.—Jun. Asst. M.O. £515 6s.

Central London Ophthalmic Hospital, Judd-street, St. Pancras.—Jun. H.S. £50.

Clinical Research Association, Ltd., Watergate House, York Buildings, Adelphi, W.C.—Asst. Directors of Laboratories. £500 and £250 respectively.

Colonial Service.—M.O.'s for West African Medical Staff, Government Service in Malaya, East African Protectorates, West Indies (including British Guiana), Fiji, and the Western Pacific, &c.

Denbighshire Education Authority.—Two Asst. M.O.H.'s. £500 to £600.

Durham County Council.—Venereal Diseases M.O. £700.

Durham University College of Medicine, Newcastle-upon-Tyne.—Assistant in Department of Bacteriology. £600.

Great Northern Central Hospital, Holloway-road, London, N.—H.S. £150.

Hospital of St. John and St. Elizabeth, 40, Grove End-road, N.W.—Anæsth. £50.

Hospital for Sick Children, Great Ormond-street, W.C.—Cas. M.O. £200. Also H.S. £50.

Huddersfield County Borough.—Asst. M.O.H. £500.

Kent Education Committee.—Sch. Med. Inspec. £862.

Leavesden Mental Hospital, King's Langley, Herts, and Darenth Training Colony, Kent.—Jun. Asst. M.O. £515 6s.

Leeds Public Dispensary.—Hon. P. and Hon. S.

Leicestershire County Council.—Female Asst. Sch. M.O. and Asst. Infant Welfare M.O. £500.

Lindsey County Council.—Asst. Tuberc. O. and Asst. Sch. M.O. £550.

Liverpool Eye and Ear Infirmary, Myrtle-street.—Hon. Asst. Aural S. Also Res. H.S. £150.

Liverpool, Royal Southern Hospital.—Hon. M.O. for X Ray Dept.

London County Mental Hospital Service.—Sixth and Seventh Asst. M.O.'s. £300.

London Homœopathic Hospital, Great Ormond-street, Bloomsbury, W.C.—Asst. S. for Diseases of the Eye.

Maidstone, Kent County Mental Hospital.—Jun. Asst. M.O. £300.

Manchester, Ancoats Hospital, Mill-street.—H.S. £150.

Manchester Children's Hospital, Gartside-street, Manchester.—M.O. and Asst. M.O. £250 and £200 respectively.

Manchester Royal Infirmary, Central Branch, Roby-street.—Second Asst. Res. M.O. £52.

Metropolitan Hospital, Kingsland-road, E.—M.O. for Electrical Dept. £52 10s.

Middlesbrough, North Ormesby Hospital.—Hon. Ophth. S., S., Anæsth., and Asst. S.

Middlesex County Council.—Dental S.'s. £400.

Newcastle-upon-Tyne Hospital for Sick Children.—Jun. Res. M.O. £200.

Newport, Mon., Royal Gwent Hospital.—Sen. Res. M.O. £250.

Nottingham General Dispensary.—Res. S. £300.

Peckham House, 112, Peckham-road, S.E.—Sen. and Jun. M.O.

Plymouth Borough.—Asst. M.O.H. £500.

Plymouth, South Devon and East Cornwall Hospital.—H.S. £200.

Prince of Wales's General Hospital, Tottenham.—Hon. Med. and Surg. Registrars. £100 each. Hon. Asst. P. Hon. Anæsth. £20.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—Pathologist. £300. M.O. for Electrical Dept. £100. H.P. £100.

Rochester, Kent, St. Bartholomew's Hospital.—Jun. Res. M.O. £150.

Royal Chest Hospital Tuberculosis Dispensary, City-road, E.C.—Asst. M.O. £450.

St. Mark's Hospital for Cancer, Fistula, and Other Diseases of the Rectum, City-road, E.C.—Jun. Anæsth. £25.

Salford Royal Hospital.—Cas. H.S. £150.

Seamen's Hospital, Albert Docks.—H.S. £150.

Sheffield Royal Hospital.—Asst. Cas. O. £150.

Sheffield Royal Infirmary.—Hon. Clin. Assts.

Shoreditch Hospital, 204, Hoxton-street.—Third Res. Asst. M.O. £325.

South London Hospital for Women, South Side, Clapham Common, S.W.—Female Asst. P. and Ophth. S. Also Radiographer. £60. Asst. Path. £150. Anæsth. 10s. 6d. per attendance.

South Mimms, near Barnet, Clare Hall Sanatorium.—Res. Asst. M.O. £350.

Surrey County Council.—Female Asst. M.O. £400.

Union of South Africa.—Asst. P.'s for Union Mental Hospital Service. Senior, £625. Junior, £400.

Ventnor, Isle of Wight, Royal National Hospital for Consumption and Diseases of the Chest.—Asst. Res. M.O. £300.

Wakefield, Clayton Hospital.—Sen. H.S. £250. Jun. H.S. £200.

Warrington Infirmary and Dispensary.—Jun. H.S. £200.

West Bromwich and District Hospital.—Res. Asst. H.S. £200.

West London Hospital, Hammersmith, W.—Asst. Anæsth.

Wigan County Borough.—Tuberc. O. and Asst. M.O.H. £550.

Winwick, Lancashire County Asylum, near Warrington.—Second Asst. M.O. £300.

Wolverhampton County Borough Education Committee.—Asst. Sch. M.O. £500.

Worcester County and City Mental Hospital, Powick.—Jun. Asst. M.O. £350.

Worcestershire County Council.—Asst. County M.O. £500.

York Dispensary.—Res. M.O. £260.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Aberystwyth and at Bathgate.

Births, Marriages, and Deaths.

BIRTHS.

MAY.—On Oct. 22nd, at Park-row, Greenwich, the wife of Surgeon-Commander P. M. May, R.N., R.N. College and Royal Hospital School, of a daughter.

MORRIS.—On Oct. 26th, at 156, Newhaven-road, Leith, to Nan, wife of George Morris, M.C., M.B., Ch.B., a daughter.

ORLEBAR.—On Oct. 19th, at Wilbury-road, Hove, Brighton, the wife of J. Alexander A. Orlebar, M.B., of a son.

PAYNE.—On Oct. 21st, at The Willows, Lavenham, Suffolk, the wife of Dr. R. W. Payne, of a daughter.

ROLLESTON.—On Oct. 24th, at a nursing home, the wife of Dr. J. D. Rolleston, of a son.

MARRIAGES.

BENSON—LINGEMAN.—On Oct. 21st, at St. Mary Abbots, Kensington, London, W., Captain Charles Thornton Vere Benson, R.A.M.C., to Dorothea Gertrude MacAlister, only daughter of Mr. and Mrs. E. K. Lingeman, of Oxton, Cheshire.

DEATHS.

BRUCE.—On Oct. 24th, at The Castle, Dingwall, William Bruce, M.D., LL.D., in his 86th year.

CLARK.—On Oct. 19th, at Norton-road, Hove, of acute pneumonia, Arthur Desborough Clark, M.R.C.S., L.R.C.P., aged 53.

FARRINGTON.—On Oct. 15th, at Gorleston-on-Sea, Anthony Charles Farrington, M.R.C.S.

HASLEWOOD.—On Oct. 25th, in London, Clarence Haslewood, M.B., C.M. Aberd., son of the late Rev. W. M. Haslewood, Great Harwood, aged 54.

NACHBAR.—On Oct. 19th, at Moor Farm, Frimley, Surrey, John Nachbar, M.A., M.D., late of St. George's Hospital, London, in his 54th year.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, London
Surgical Nursing and the Principles of Surgery for Nurses. By R. Howard, M.S. 4th ed. Pp. 320. 7s. 6d.
Spiritualism and the New Psychology. By Dr. Millais Culpin. With an Introduction by Prof. Leonard Hill. Pp. 160. 6s.
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Notes, Short Comments, and Answers to Correspondents.

BIRTH-RATE PROBLEMS.

A RE-DISCUSSION UNDER PRESENT-DAY CONDITIONS.

In Utopia the statesmen of medicine and of politics meet on common ground. It is becoming increasingly clear to the forward-looking members of our profession that the problems of housing and finance, the conditions of industry, and the nature of education, for long the concern of the politician, are equally the concern of the doctor. In the field of eugenics this desirable coöperation between scientists and law-makers has of recent years made considerable progress. We regard this as one of the most hopeful auguries of the new century. How valuable such coöperation may be appears from the perusal of four books[1] which we have received for review.

A Falling Birth-rate.

Mr. G. Udney Yule's statistical study represents the most strictly scientific contribution to the practical subject of child-bearing. He is not concerned whether a large population or a small one is desirable, nor whether some methods of limiting fertility are more moral or more "natural" than others. His work is a dispassioned analysis of the factors contributing to the decline of births, and thus he furnishes a number of valuable data by which the conclusions of more imaginative theorists may be judged. The main object of the thesis seems to be a disproof of Dr. Johnson's dictum, made to Boswell in respect of Russia, that "births at all times bear the same proportion to the same number of people," but in the course of the argument there are at least twelve occasions when to the reader's imagination will appear the triumphant Q.E.D. of the logician, and each time the demonstration is worth while. The most surprising conclusion—to us—is the result of a study of declining birth-rate in the county of Connaught, from which it is deduced that the present declining fertility of the race must not be attributed to the use of artificial contraceptives. There is no flaw in the logic; yet even a statistician is not infallible. Perhaps he may rely too much on the authority of the Roman Catholic Church, or perhaps, again, the priest has substituted for artificial control a censorship of some equally potent kind and one which replaces the use of contraceptives in Protestant communities. In either case the logical structure would be undermined. Mr. Yule convinces us, at least, of this, that many factors may be at work in the decline of fertility, and that economic factors are, at least, among them. He mentions also Dr. J. Brownlee's hypothesis[2] that a rising birth-rate results from a generally increased vital energy of the race, dependent upon conditions preceding the rise which favour the storage of such energy. The economic explanation selected by Mr. Yule differs in an interesting way from the Malthusian doctrine expounded by Mr. Cox in "The Control of Parenthood." In the former, high prices, representing a need for production, result in an increase of population to meet that need. The connexion between rising prices and increasing population is graphically illustrated, and in this form looks very conclusive. Mr. Cox, on behalf of Malthus, proves that population tends to increase up to the means of subsistence. The two propositions are not mutually exclusive, for the second one takes into account the factor of the limited quantity of natural wealth or raw material, whereas the former is obviously only true so long as there is no shortage of raw material.

Limitation of Conception.

We have now to face a still more controversial aspect of eugenics, and one which is closely related to the fertility-rate of the human species. Is it expedient, "natural," and right for man to limit of his own free will the number of his offspring? Pushed to its logical conclusion, Mr. Yule's graph shows that the present is the very moment when population should increase with the greatest rapidity, for there is a world shortage of supplies of all kinds. The Malthusian doctrine warns us, on the other hand, that if more babies are born when there is insufficient housing space and insufficient food the death-rate will rise to compensate such a disturbance of nature's provisions. Mr. Cox convinces us that

[1] The Fall of the Birth Rate. By G. Udney Yule, M.A. Cambridge University Press. 1920. Pp. 44. 4s.—The Control of Parenthood. Edited by James Marchant, C.B.E., LL.D., Secretary of the National Birth Rate Commission. London and New York: G. P. Putnam's Sons. 1920. Pp. 203. 7s. 6d.—Wedded Love or Married Misery. By W. N. Willis. Published by the Author. 1920. Pp. 182. 6s. 6d.—Radiant Motherhood. By Marie Carmichael Stopes, D.Sc., D.Ph. G. P. Putnam's Sons. 1920. Pp. 264. 6s.

[2] Germinal Vitality, Proc. Phil. Soc., 1913-14, 77, 259.

"prudential control of the birth-rate" is the necessary alternative to a "punitive expansion of the death-rate." He adds a very cogent argument when he says "throughout animal life we find that the highest types are the lowest breeders." This statement is illustrated from human experience in a later chapter by Dr. Marie Stopes. There are some, therefore, who conclude birth control to be a part of natural law. But not all, for there is disagreement even among the contributors selected by Rev. J. Marchant, LL.D. Dr. Mary Scharlieb writes a powerful if restrained chapter to prove that limitation of families is wrong and dangerous because it does not control nor discipline sexual passion, but by removing fear of the consequences it does away with the chief controlling and steadying influence of sexual life.

Mr. W. N. Willis's book is largely devoted to the same argument. The weakness of Dr. Scharlieb's position lies in her assumption that in every family where contraceptive methods are in use the husband, at least, will make no effort at all to control his sex instinct. This assumption is to us not only unexpected but even the reverse of what we should expect. The weakness of Mr. Willis's work is chiefly in the style of his writing. The book reminds us of political speeches to which we have listened during an exciting election. The enthusiastic orator does his very best to refrain from rudeness to his opponent. The effort protracts his sentences until they reach to the farthest corner of the gallery. Even then zeal is too much for him, and his inner feelings show themselves in some unhappy innuendo. Dr. Leonard Hill has also a dislike of artificial means to prevent conception. He believes that people have recourse to them because of the overcrowded conditions in which they live, and the consequent lack of healthy open-air exercise. He also points out that excessive intercourse is more injurious to some natures than to others.

Ideal Motherhood.

It is plain that a final decision in the use of these methods cannot be given. Mr. Marchant's book—to which there are also theological contributions—will help the sincere seeker to come to his own decision, and is warmly to be recommended to all who have not already made up their minds on this difficult problem.

Dr. Stopes's new book will have as many admirers as her former works have had. At present it has not found a place beside its predecessors in the windows of the rubber-goods stores. This may be taken as an indication that it will have fewer enemies. To be sure, there will be critics, for the teaching is too challenging to pass unheeded. At least her critics must admit that Dr. Stopes has a high ideal of motherhood and a real literary gift. The opportunity for serious controversy will come when the writer publishes the results of her experimental and statistical research with the evidence for her conclusions in a form that is open to analysis.

Let us note, in conclusion, one reform warmly advocated both by Dr. Stopes and Mr. Willis—that is, the endowment of motherhood. The advocates of a large birth-rate and those who lay emphasis first on the quality of our progeny can unite in supporting this plea. The politician has already admitted the justice of the principle; it is time that the medical profession should insist on the grant being made adequate to ensure every new-born baby against the appalling dangers of preventable poverty.

MAURITIUS HEALTH REPORT.

A REPORT on the Blue-book of Mauritius and its Dependencies for the year 1918, prepared by Mr. L. Kœnig, Assistant Colonial Secretary, has been presented to Parliament. From this it appears that the estimated population of the colony on Dec. 31st, 1918, was 376,813 and of the dependencies 8144. Indians form about 70 per cent. of the total population. The birth-rate was 34·8 per 1000, as compared with a mean birth-rate for the last five years of 36·4. The death-rate was 33·9 per 1000, being slightly higher than the average. The highest mortality was in Port Louis, and corresponded to a rate of 50·4 per 1000, 7·6 higher than the average for the five years 1914–18. The number of deaths ascribed to malaria was 3460, the other principal causes of death being pulmonary tuberculosis, dysentery, bronchitis, and pneumonia. No outbreak of serious infectious disease occurred, but the general health conditions were not favourable for a considerable part of the population. The constant rise in the price of all commodities caused much hardship and suffering, with consequent deterioration of health, and the most hard-hit were the labouring classes. The rainfall, which was exceptionally heavy during the first part of the year, necessarily acted as a stimulus to the breeding of anopheles mosquitos, and malaria has been prevalent throughout the island. There has been no improvement in the death-rate of children in the first five years of life; in Port Louis the rate was 388·9 per 1000 births, and in the remainder of the island 300·8 per 1000. Systematic neglect and lack of care are largely responsible for this great waste of life. An appeal was made by the Governor for the opening of a creche in the city of Port Louis for the sick infants of the poor; it met with a sympathetic response, and the work is to be extended to other centres. The Civil Hospital in Port Louis, to which are attached a maternity ward and a Police Hospital, contains 290 beds. 6672 patients were admitted during the year, and there were 388 deaths. A striking feature of this institution is the amount of surgical work carried out. During the year 1039 operations were performed, the deaths numbering 22. District hospitals are also maintained by the Government, with an aggregate accommodation of 659 beds. The total number of cases (mostly malaria) treated in these during the year was 14,824. The number of cases treated at outdoor dispensaries was 57,025. Owners of estates provide estate hospitals, of which there are 83. In the Leper Asylum, situated on the outskirts of Port Louis, there were 68 inmates at the close of the year and 21 admissions during the year. Nine inmates were discharged and the number of deaths was 19. The Government is erecting a new leper colony at Powder Mills, in the district of Pamplemouses, a few miles out of Port Louis. A committee has been appointed to report on the incidence of malaria in Port Louis and to make recommendations for its gradual reduction. A more extensive spleen census among school children has been taken. A total of 15,616 children were examined during the second half of the year; of these, 13,638 were found without enlargement of spleen, 1440 were returned with slight enlargement, 401 and 237 had medium and great enlargement of the organ respectively.

VILLAGE CENTRES.

THE second annual meeting of the Village Centres Council was held on Oct. 27th, Lord Haig being in the chair. The President drew attention to the valuable work being done at Enham, and appealed for support to enable this centre to be extended and others created. Since the opening of Enham Village Centre in June, 1919, over 350 men had been dealt with there. There had passed out 175, of whom 80 were fully restored to health and independence, and only 14 were out of work. The sum of £1500 is urgently needed to pay off loans.

NATIONAL BABY COUNCIL: ANNUAL MEETING.

THE annual general meeting was held at the Armitage Hall, 224, Great Portland-street, London, W., on Oct. 26th, Sybil, Viscountess Rhondda, taking the chair. Mr. H. O. Stutchbury, who is in charge of the Maternity and Child Welfare Branch of the Ministry of Health, was the chief speaker. He started by saying that the Ministry had covered 98 per cent. of the ground requiring provision in the form of health visitors and infant welfare centres. The Ministry had set out to help establish 2000 health visitors and 2000 centres and had nearly reached their goal. Their policy was to combine school clinics with treatment centres; in fact, the school medical and the maternity and child welfare services were very closely linked up, the assistant school medical officer usually being the medical officer to the Maternity and Child Welfare Committee and the school nurse the health visitor. Although not specifically stated by the speaker it is obvious that much of the policy is the direct outcome of the sessional meeting held at the Royal Sanitary Institute with Sir Arthur Newsholme in the chair, when Dr. Eric Pritchard and Dr. C. W. Hutt, of Brighton, put forward similar suggestions. The chief obstacles in the way hindering the provision of an improved midwifery service was the difficulty of finding living accommodation and material for pupil midwives. The value of voluntary agencies could not be over-estimated; if it were not for voluntary effort the calendar in England would have to be set back years. The satisfactory position in which the Ministry found themselves to-day was largely due to the work of volunteers like Mrs. H. B. Irving, in connexion with whom the speaker made a reference which was much appreciated by the large audience. He reminded his hearers that the Motherhood film was not only acted by one of the honorary secretaries of the National Baby Week Council, Mrs. Irving, but that she had written it as well.

The other principal speakers included Dr. Elizabeth Sloan Chesser, Sir James Cantlie, and Mrs. Irving. Dr. Chesser spoke to the point. In response to the request of the chairman for suggestions she advocated the sending out of an S.O.S. message to the infant welfare centres asking them to preach breast feeding; this message a lady in the audience suggested could with equal advantage be sent out to the general medical practitioners. Dr. Chesser deprecated too many mothers and babies being seen at any one session at the centre, two or three expectant mothers and 15 babies being as many as the doctor could deal with adequately in the time. She was strongly in favour of maternity nurses during their training attending antenatal centres. The wretched conditions

which prevail in the one-roomed homes of the poor, the utter lack of elementary decent privacy even during the actual labour, let alone the increased danger of puerperal fever, were overwhelming arguments in favour of the provision of maternity beds in institutions. Sir James Cantlie delivered one of his characteristic discourses. The curse of England was the "tied" farm, which could not sell milk to the surrounding countryfolk. After discoursing on the Summer-time Act, he said that there was starvation in the country parts in England; the people cannot get milk. He regretted that shopkeepers could not yet be fined for selling comforters; whenever he saw a baby in a pram with one he snatched it away, preached a short sermon to the offending mother, and left quickly, placing a sixpence in her hand. After entering his objection to perambulators, based apparently on the fact that they are only found among highly mentally developed nations, he went on to advocate the cutting down of trees in the London squares, which he wished to see covered over, so that the public elementary school children could play in them, wet or fine. The chairman approved of his view that the railings could be removed with advantage. Passing on to speak of teeth, Sir James Cantlie offered one shilling to every person in the room for every sound six-year old molar they possessed. Mrs. Irving wanted arrangements made to enable middle-class girls who were unable to afford a nurse to attend at infant welfare centres to obtain advice from the welfare superintendent. But above all she begged the audience to do all they could, if it were only to try and influence their local Member of Parliament to help promote a Bill to establish widows' pensions right away. When the time for questions came the audience were somewhat persistent in asking the representative of the Ministry of Health for a definition of a necessitous mother, but without any success. The sense of the meeting was in favour of the Ministry suggesting to various types of localities more or less definite scales for the granting of free or half-price milk, but this task was evidently not welcomed by the official speaker.

Dr. Pritchard, in moving the adoption of the report, pointed out that voluntary bodies, unlike official bodies, were able to go in advance of public opinion and create it. Without some central organisation, Baby Week would degenerate into a week during which an unusual number of baby shows were held. This was not to say that such shows were not useful; if the proper schedules and forms were used they taught even the judges a lot of mothercraft.

At the end of the meeting the following resolution, proposed by the Village Councils Federation, was, after a brief and apt speech, presented by Miss Churton, secretary to the Rural Housing Association, and passed unanimously:—

"That this meeting of the National Baby Week Council desires to call the attention of the Minister of Health to the general lack of provision in villages for the disposal of refuse and night-soil, which constitutes a grave danger to the health of children, and urges that pressure should be brought to bear on local authorities to deal with the matter in their district."

POCKET GUIDES TO FIRST AID.

Messrs. John Bale, Sons and Danielsson, Ltd., of Great Titchfield-street, London, W., are publishing at the price of 6*d*. each a new edition of linen-lined four-paged cards, the series of six covering all the essentials of first aid. The name of Colonel R. J. Blackham, Assistant Commissioner, St. John Ambulance Brigade, is sufficient guarantee for the accuracy and clearness of the information, and the six cards which deal respectively with poisoning, hæmorrhage, insensibility, asphyxia, fractures and sprains, and wounds and minor injuries, should be useful to first-aid students who could carry them in the pocket and study them at leisure moments. The cards make excellent notes for first-aid lecturers.

THE DOSAGE OF COLLOIDAL MANGANESE.

To the Editor of THE LANCET.

SIR,—Staphylococcal infections in various forms seem to be very prevalent at the present time, and one has heard and read of good results from the treatment of such infections with colloidal manganese; but as I have seen no marked benefit in any of the cases (mostly of recurrent boils) in which I have tried it, I am led to suppose that my methods have been at fault, and I should therefore be grateful for advice as to the proper dosage from any reader of THE LANCET who has used this preparation with encouraging results. The makers' directions are vague and not very helpful, and I have hitherto given a ½ c.cm. dose at intervals of a week, as I was advised. As the ampoules contain 1 c.cm., this is presumably a proper dose under appropriate circumstances, and I should be glad to know what are the symptoms of an overdose.

I am, Sir, yours faithfully,

Oct. 24th, 1920. IGNORAMUS.

THE PSYCHOLOGY OF THE DELINQUENT CHILD.

AT a meeting of the Child Study Society held at the Royal Sanitary Institute, Buckingham Palace-road, on Oct. 21st, with Dr. W. A. Potts in the chair, Dr. A. R. Abelson delivered an interesting and important address on this subject. He said that a vast amount of the present wrong-doing could be prevented. There was need for a radical change in our ideas and methods of dealing with the rising generation. The child was malleable and easily affected by environment; he had not, as a rule, yet become demoralised by continual failures in his efforts to give up unsocial habits. The habitual criminal in practically all cases showed anti-social tendencies at an early age. A certain percentage of criminals were mentally, and hence morally, deficient. Insanity and epilepsy were important factors, while a large proportion of delinquent children were constitutionally neurotic, and psychological treatment had often succeeded when other treatment had ignominiously failed. Physical as well as mental factors had also to be taken into consideration. The removal of tonsils and adenoids often produced a marked improvement in the child's condition, and treatment for worms often had a similar result, but the lecturer had not found the evidence for thyroid deficiency as a predisposing cause to delinquency as yet sufficient.

Mental Deficiency and Wrong-doing.

With regard to the relationship between mental deficiency and wrong-doing, statistics showed a wide variation. In America one investigator found 36 per cent. of feeble-minded; another, half. Among a number of prostitutes 36 per cent. were found to be mentally defective. English statistics went to the other extreme and tended to show that only about 10 per cent. of criminals were feeble-minded. Competent authorities again held that mental deficiency was not an important factor in the evidence of crime, as the percentage among the criminals was the same as among non-criminals. The chief reason for this discrepancy of opinion, while racial factors could not be ignored, probably lay in the crude methods still used for the tests. Professor Spearman and Mr. Burt were doing some excellent research in this very direction, and other work was being done in this country which would doubtless produce good results. An important section of delinquents were subnormal in intelligence. Large numbers of mentally defective children left the special schools at about the age of 16, and, living in the midst of a very bad environment, helped to swell the ranks of the unemployed and unemployable. Some of these children possessed an unusual amount of cunning, and the facts that they were often very well behaved when under supervision, and that they responded to kind treatment, made the state of affairs all the more deplorable. These children had a very small sense of right and wrong, and it ought to be considered a criminal act to let them loose on society. He did not suggest that all mental defectives were potential criminals, but generally speaking the mentally deficient child was morally deficient, inasmuch as his conception of right and wrong was below the normal standard.

With regard to cunning, some children from an early age showed immoral impulses. These were sometimes children of high mental ability from the scholastic and general standpoint and might develop into those brilliantly successful people described by their contemporaries as "clever rogues." More common were those who did not do well in school but responded well to mental tests. Lastly, there were those who were mentally backward or deficient, yet who from an early age showed much cunning in exercising immoral impulses. The best explanation that offered itself was that such children were able, by virtue of their abnormality, to concentrate the best of the powers they possessed into morbid paths. So far as mental abnormality was concerned, it was the border-line cases that presented the greatest difficulty, and it was not always possible to be certain whether a given case was one of insanity or no. With the advance of psychological knowledge, however, more accurate diagnosis became possible. Dr. Abelson had found cases which were being treated as criminal cases which were in all probability psychical epilepsy.

Pathological Impulses, Lying and Stealing.

There were a great many people who at times felt an impulse to do what they should not do. This was quite commonly observed in healthy children. It corresponded to the overwhelming impulse of some people to throw themselves over the edge of a precipice or to fall when crossing a plank bridge over water. These were cases of neurosis and conduced to by modern conditions of life. It was typical of modern civilisation for instance, to put a public-house at the corner of the street and then to moralise on the evils of drink. A figment of the imagination must not be considered as pathological in young children, for it would frequently be found when there was not the remotest sign of any abnormality. In adolescents and adults, however, this

phenomenon had a greater significance. When it became habitual it was often a case of wish fulfilment. Many children brought up strictly often feared to tell the truth because of the consequences of punishment and tended to become liars. Kleptomania occurred in children as well as in adults, and the evidence was practically unanimous that these conditions are largely bound up with what is termed mental conflict. When this was brought into the realm of consciousness the child gave up his anti-social acts.

Treatment.

It was time, said the lecturer, that we realised that we are in a majority of cases dealing with a pathological problem which requires adequate treatment. There was an important difference between delinquency and what was generally termed disease. Delinquency was often curable, and that was more than could be said of most of the medical diseases, but up to the present time the erring child had received most inadequate treatment. Much had been done by the introduction of special schools and of the Borstal system, but all this savoured far too much of the policeman and the prison. There were, however, some model institutions, of which the Northumberland Village Homes, Whitley Bay, was an example. The name avoided any stigma and implied a curative rather than a penal home. The children were arranged in separate houses, a woman acted as a sort of mother, and from a psychological point of view this was of considerable importance. Punishment, if found necessary, should be done early, but he agreed with Mercier that it was absurd to increase punishment with repeated wrong-doing. In some cases punishment did considerable harm. Frequently psychological treatment had proved successful where punishment had ignominiously failed. Treatment divided itself into curative, palliative, and preventive. In the first two groups several methods were proposed. Suggestion should be employed in combination with moral re-education; quite good results had already been recorded. Another form of treatment was persuasion, which should include moral re-education. The only satisfactory method, perhaps, was to trace the cause of the moral defect and to treat accordingly. In the case of functional nervous disease psychotherapy was often of great value, particularly psycho-analysis. Preventive measures were much more important than curative, but ceased to be of use once delinquency had become established. Mental deficients and those showing marked moral aberration should be segregated. In the future considerable time and attention would have to be devoted to the child mind. The problem of the orphan, the widow, and the young person thrown without resources on the world should receive urgent attention of the Government. The true laws of life and motherhood should be inculcated and parents must be taught their responsibility.

A large number of our criminals come and go out of our prisons time after time. These prisoners could be segregated early and thus prevented from pursuing lives of crime. The psychologist had been introduced in one or two of our industrial schools, but we were far behind other countries, especially America, in this humanitarian work.

TEA AND BROWN SUGAR.

To the Editor of THE LANCET.

SIR,—The people who are lucky enough to be able to enjoy sugar in their tea commonly object to using brown sugar for the purpose. Their dislike seems to arise partly from the treacly taste being more or less incompatible with the taste of tea, and partly from the change in colour as the sugar dissolves. The latter is, as far as I can judge, the more cogent consideration by a good deal. The alteration in colour is obviously not due to the summation of the pigments of the tea and the sugar; both are brown or yellow, and the mixture looks as if some black pigment had been added. The formation of this can be elegantly demonstrated by floating an infusion of tea on to the top of a strongish (20 per cent.) solution of the sugar in a test-tube; with a reactive sugar, which in practical use gives an unpleasant-looking cup of tea, a sooty ring develops at the line of contact. A solution of tannin gives the same result as a tea-infusion, and the obvious suggestion that the blackish stuff is iron tannate is confirmed by finding that the samples of sugar which react strongly with tea also react strongly when tested for iron, and vice versa. The objectionable ingredient in the sugar seems therefore to be iron, introduced, I suppose, in the preliminary stages of preparation where iron pans are said to be used. In a general way the unsuitability of the sugar for tea and the amount of iron in it run parallel with the brownness of the sample as one passes along the scale from dry crystalline "Demerara" to what is, in some circles at any rate, known as "nigger spit." Most samples of the dark brown "Barbadoes" sugar give nasty-looking tea, but some do not, and the latter have relatively little iron; contrariwise pale yellowish "moist" may contain much iron and give a dark brown-black tea. "Demerara" seems pretty well all right; it is a refined sugar and the pigment is stated to be mostly an artificial addition. The position with regard to coffee is much the same, but the tastes are different and people seem less particular about the colour.

I am, Sir, yours faithfully,

Oct. 25th, 1920. A. E. BOYCOTT.

THE SINGER'S ART.

A SERIES of articles, mostly written for the singers' class of the Society of Women Musicians, and published from time to time in musical periodicals, have now been issued by Miss A. J. Larkcom as a primer under the title "The Singer's Art." The report of the scientific subcommittee, composed of Dr. Peter Thompson, Professor A. Keith, Dr. W. Pasteur, Dr. H. H. Hulbert, and Professor C. S. Sherrington, to the Conference on Voice and Speech-training (published in THE LANCET, 1913, ii., p. 252) is incorporated therein. Miss Larkcom says that, in her opinion, this report contains everything that a teacher or singer needs to know about breathing for singers. The primer is published by Novello and Co. at 2*s*.

THE Board of Education has issued a combined draft of various regulations dealing with the special services of elementary education other than nursery schools, thereby simplifying the labour of reference. As the amount of expenditure by local authorities on all special services is taken into consideration for the payment of grants, it is a convenience to have all the regulations within one cover.

Communications, Letters, &c., to the Editor have been received from—

A.—*American Journal of Physiology*, Baltimore; American Red Cross, Washington; All-America Conference on Venereal Diseases, Washington.
B.—Mr. W. B. Bell, Liverpool; Prof. A. E. Boycott, Lond.; Dr. H. Barwell, Lond.; Col. R. J. Blackham, Maidstone; Dr. P. A. Buxton, Tonbridge; Dr. J. Blomfield, Lond.
C.—Dr. R. P. Cockburn, Lond.; Central London Throat, Nose, and Ear Hospital; "County Practitioner"; Mr. J. C. Carr, Liverpool; Prof. M. Cameron, Glasgow; Dr. A. K. Chalmers, Glasgow; Mrs. A. E. Cockerill, Northam; Dr. A. Cassar, Alexandria; Prof. E. L. Collis, Cardiff.
D.—Dr. V. Dickinson, Lond.
E.—Messrs. T. Edgar and Co., Lond.; Mr. D. L. Eadie, Edinburgh; Enquirer.
F.—Mr. H. A. T. Fairbank, Lond.; Forum Club, Lond.; Faraday Society, Lond., Sec. of; Lt.-Col. F. E. Fremantle, M.P.; "Former A.M.S."; Dr. C. Floquet, Paris; Prof. J. E. Frazer, Lond.; Mr. W. R. Fairbrother, Lond.
G.—Great Northern Central Hospital, Lond.; General Medical Council, Lond., Registrar of; Glasgow Post-Graduate Medical Association; Messrs. C. Griffin and Co., Lond.
H.—Dr. P. Harper, Makogai, Fiji; Dr. J. R. Harper, Barnstaple; Dr. C. O. Hawthorne, Lond.; Dr. T. S. Higgins, Lond.; Mr. J. T. Henderson, Pietermaritzburg; Prof. A. V. Hill, Manchester; Messrs. Wm. Heinemann, Lond.
I.—Insurance Committee for the County of London.
J.—Dr. R. R. James, Lond.; Mr. J. L. Joyce, Reading; Miss L. E. Jex-Blake, Lond.; Dr. F. H. Jacob, Nottingham.
L.—Liverpool Medical Institution; Prof. J. B. Leathes, Sheffield; London Chamber of Commerce; Messrs. H. K. Lewis and Co., Lond.; London County Council, Clerk of; Mr. E. M. Little, Lond.
M.—Ministry of Pensions, Lond.; Ministry of Health, Lond.; Mr. Murray, Lond.; Ministry of Agriculture and Fisheries, Lond.; Medical Research Council, Lond.; Dr. A. H. Macpherson, East Kilbride; Dr. J. Morley, Manchester; Sir F. Mott, Lond.; Capt. J. F. McMillan, Sandown; Dr. S. G. Moore, Huddersfield; Dr. J. C. McWalter, Dublin.
N.—"Nosnikta"; National Hospital for Paralysed and Epileptic, Lond.; Messrs. Novello and Co., Lond.
O.—Dr. J. Ormerod, Lond.; Dr. H. Oppenheimer, Lond.
P.—Professional Classes War Relief Council, Lond.; Panel Committee for the County of London, Sec. of; Lt.-Col. P. J. Probyn, Cardiff; Mr. W. Paterson, Lond.; Mr. L. Peralta, Cartago, Costa Rica; Process Co., Ltd., Halifax.
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Y.—Dr. A. G. Yates, Sheffield; Dr. H. Yellowlees, Edinburgh.

Communications relating to the editorial business should be addressed exclusively to the Editor of THE LANCET, 423, Strand, London, W.C. 2.